Key Stage 3
National Strategy

Leading in Learning: developing thinking skills at Key Stage 3

Guide for school leaders
Key Stage 3
National Strategy

Leading in Learning
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Acknowledgements

We are grateful to the following LEAs for piloting the Leading in Learning materials: North Tyneside, Nottinghamshire, Redbridge, Richmond-upon-Thames.

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The Leading in Learning programme has been developed as part of the Key Stage 3 Strategy’s support for whole-school improvement. It is a systematic, research-based programme, focused on improving pupils’ thinking skills in curriculum subjects. This initiative is a key element in the government’s commitment to personalised learning that seeks to build every aspect of education to meet the needs and aspirations of individual learners, to maximise their achievement and create independent, lifelong learners.

Personalised learning is an approach to teaching and learning that stresses deep learning as an active, social process and which is explicit about learning skills, processes and strategies. It builds independence through interaction, intervention, stimulation and collaboration. Leading in Learning is at the heart of personalised learning because it involves the systematic and explicit development of thinking and learning skills and strategies across the curriculum. It enables pupils to understand themselves better as learners and to apply a widening repertoire of learning approaches in different subjects. Giving explicit attention to thinking and learning equips pupils to transfer their learning to different contexts and helps them to process, construct and deploy subject knowledge and understanding more actively and effectively.

A key sign for the achievement of personalised learning is the extent to which schools can create a continuing dialogue with pupils about their learning, so that they are engaged and motivated, enjoy their schooling, know their learning goals and can work and reflect together on what and how they learn. Leading in Learning is of major importance in establishing this dialogue, so that each pupil develops the self-esteem and confidence for active participation in learning within and beyond school.

Leading in Learning challenges the notion held by many pupils that learning is dependent on luck and that ability is fixed. Instead it teaches pupils that learning can be improved through the application of a range of approaches and strategies. It should help to move some pupils from a feeling of helplessness to one in which they feel they have some control over their achievement and learning trajectory.

The initiative is based on three ‘cornerstones’:

1. A strong research base into learning and cognition.
2. Collaborative learning by groups of teachers.
3. Systematic support across a whole school, backed by materials and consultancy from the Key Stage 3 National Strategy.

For the initiative to succeed, all three elements need to be firmly in place.

- Teachers wishing to go further into the history and research will find a short summary with key references in an appendix to the Handbook for teachers entitled, ‘The evolution of teaching thinking skills’.
- The Handbook for teachers is designed to support the establishment of collaborative networks of teachers to promote the explicit teaching and learning of thinking skills within and across subjects. Teachers focus on a particular thinking skill and then collaborate to connect lessons across three chosen subjects using a common strategy. This collaboration greatly
increases the chances that pupils will build cognitive structures and acquire a disposition that encourages transfer of learning.

- The full set of materials includes a detailed *Guide for school leaders* and a *School training manual* that promote systematic involvement of teachers in all subjects to ensure a full pupil entitlement to the development of thinking skills.

**Findings from the pilot**

The pilot was most successfully implemented in schools where the Key Stage 3 Strategy has been effectively embedded across the whole school through subjects and, for example, as a result of implementation of Assessment for Learning (AfL). This provides a platform for development that is built on an existing school culture of collaborative professional development and pupils’ independent learning skills.

**Considerations for whole-school implementation**

Taking on an initiative such as Leading in Learning offers schools a well-documented and piloted approach that can be a key spur to school improvement. Teachers who work collaboratively on the initiative have much to gain, as do their pupils, but it helps if the initiative has some foundations upon which to build.

Schools will wish to consider when they might adopt Leading in Learning as a focus for whole-school improvement, depending on current and future priorities within their School Improvement Plan. These materials are a natural development of, and partner to, other Strategy initiatives. Such initiatives can therefore be seen as providing excellent preparation for Leading in Learning. For example (detailed references on page 35):

- Leading in Learning is a natural extension for schools that have been focusing on teaching and learning through subject developments or use of the Teaching and Learning series of study booklets.

- A number of LEAs have been developing coaching programmes. Where this has been the case, the coaching programme will provide an admirable framework through which to support the development of the necessary pedagogy.

- Where Assessment for Learning (AfL) is providing a driving force for change, the Leading in Learning lessons could help pupils gain a sense of their own capability as learners.
Introduction

‘No curriculum can be regarded as acceptable unless it can be shown to make a contribution to the teaching of thinking.’

Robert Fisher, Teaching children to think (Blackwell, 1990)

Leading in Learning is a structured programme for teaching thinking skills at Key Stage 3. It takes a cross-curricular approach that is different from having separately timetabled lessons or programmes confined to a particular subject. The model is innovative in requiring collaboration across departments to teach an agreed thinking skill, using 3-lesson cycles based on a common teaching strategy, one lesson in each of three chosen subjects. For each lesson in the cycle, teachers are invited, without abandoning their subject, to set subject content in a context where the emphasis is on developing and discussing a selected thinking skill and how it might be used.

The approach is deliberately structured so that teachers and pupils look beyond subject confines to thinking and learning more generally. There is a focus on specific thinking abilities and metacognition to encourage systematic development of thinking skills and transfer of learning across subjects and to other aspects of pupils’ lives.

In order to achieve this the Leading in Learning initiative aims to:

■ help teachers to develop their practice through collaboration in the planning and teaching of thinking skills and in the development of a common language about thinking and learning;

■ identify clearer patterns of pupils’ progression in thinking skills to inform future planning and teaching;

■ support senior leaders in establishing a whole-school approach to developing thinking skills.

‘The focus on thinking skills proved a powerful catalyst for the systematic investigation of pedagogy and one that can promote dialogue amongst teachers regardless of subject or phase of education.’

Vivienne Baumfield, Director, Thinking Skills Research Centre, University of Newcastle

Contents of the school packs

Participating schools are provided with two copies of a school pack, each containing:

Handbook for teachers. This is the essential planning tool for all teachers involved in the Leading in Learning initiative. There are two copies in each pack. (Files available on CD-ROM for extracts to be printed as required.)

Guide for school leaders. This document sets out a plan for implementing Leading in Learning as a whole-school programme and provides guidance on leading and managing the process.
School training manual. This is for senior leaders in schools and LEA lead consultants. It provides training materials (including DVD and CD-ROM files) to support in-school staff development in Leading in Learning.

Posters. A set of ten A3 posters illustrating each of the ten suggested teaching strategies, their relationship to the thinking skills and a short example of a 3-lesson cycle.

In addition, the DfES website (www.standards.gov.uk/keystage3) provides subject exemplification to assist teachers in gathering ideas about how to apply the teaching strategies to their own subject.

About this Guide for school leaders

This Guide sets out a model for implementation in four phases: focusing, developing, establishing and enhancing. The model is designed to enable schools to start on a small scale with the cross-department model, using some Leading thinkers on the staff and engaging the whole staff in preparatory stages. The Guide sets out a clear progression for development, allowing schools to vary the detail and pace of implementation to suit individual contexts, over a period of a year or longer.

The following is a synopsis of the rest of the Guide:

Teaching thinking skills at Key Stage 3

Describes the National Curriculum thinking skills and sets the context for the Leading in Learning approach.

Model for whole-school implementation

Sets out an entitlement for pupils in terms of a thinking skills programme for the key stage, some principles to guide the development and an overview of the suggested phases of focusing, developing, establishing and enhancing.

Leading the development

Goes through the developmental stages of helping staff to implement the programme and resolving the challenges that schools are likely to face. There are extensive cross-references to the Handbook for teachers and the School training manual.

Selected references

Key Stage 3 Strategy materials that provide particular support to the Leading in Learning programme.
Teaching thinking skills at Key Stage 3

The National Curriculum describes five thinking skills to be developed across all Key Stages. The five skills are:

- Information processing
- Reasoning
- Enquiry
- Creative thinking
- Evaluation

The term ‘metacognition’ (thinking about thinking) denotes the reflective processes and higher-order thinking that involve active control over the cognitive processes engaged in learning. Pupils engage in metacognitive activities every day. For example: planning how to approach a given learning task; monitoring comprehension; and evaluating progress towards the completion of a task are metacognitive in nature.

‘Pupils can be encouraged to reflect on what and how they learn, and how these skills can be applied to different subjects, different problems and real-life situations.’

‘By using thinking skills pupils focus on “knowing how” as well as “knowing what” – learning how to learn.’


As pupils acquire information, ideas, skills, values, ways of thinking and the means to express themselves, they are also learning how to learn. However, pupils do not readily transfer their learning from lesson to lesson and often see little connection between lessons and their life beyond school. This has consequences both for each pupil’s motivation and their ability to be an independent learner. If pupils are to succeed as independent learners they have to know how to generate their own ideas, acquire knowledge for themselves and think independently. Every school aspires to help pupils achieve this, but few do so systematically. Too often, thinking skills or study strategies are presented in isolation so that:

- it is left to the pupil to transfer the strategy to real settings;
- teachers lose the opportunity to share good practice across subject areas.

The Leading in Learning initiative seeks to build on work already underway at Key Stages 1 and 2, a developing model with a collection of case studies available in the Thinking Skills section of the DfES Standards website. The building blocks of the current curriculum at Key Stage 3 are subjects, taught by different teachers. However, there is no powerful medium for drawing subjects together into a coherent whole. In this context there is less opportunity for teachers to develop a shared language about learning. Yet subject progression does depend on the development of certain cognitive skills.
There is a spectrum of possibilities for developing a thinking skills programme. Programmes confined to a subject can make an excellent contribution to pupils’ thinking and understanding of key concepts within that subject. Programmes involving discrete thinking skills lessons separate from subjects can facilitate an explicit focus on the thinking skills using a broad range of contexts. But, in different ways, both approaches leave open the issue of transfer and the need to engage all teachers and pupils in ‘owning’ thinking skills and making them a priority. The model offered by Leading in Learning seeks to capitalise on some of the advantages of both types of programme. It develops a cross-curricular approach which is clearly located within subject-specific lessons. Given sufficient commitment of time to collaboration between departments, it can be made manageable, coherent and progressive.

**Findings from the pilot**

The pilot gained the commitment and enthusiasm of teachers. Leading in Learning retains a clear focus on subject knowledge and content, allied to approaches that enable pupils to access and engage with subject learning. Teachers found the recommended range of teaching strategies useful for collaborative planning and for making connections across subjects. They commented that involvement in the pilot encouraged them to raise the level of challenge in the classroom activities provided, and offer more open-ended tasks. Where the lessons were successful, teachers reported that the time devoted to an explicit attention to thinking and learning was not detracting from subject content, but enhanced it.

**Considerations for whole-school implementation**

A feature of successful lessons in the pilot was that teachers enabled pupils to ‘see’ beyond the classroom activity, and the particular strategy used, to their own thinking and learning processes. Many found that the support offered by LEA consultants was instrumental in helping them ‘stand back’ from their teaching, and develop successful approaches through a process of guided reflection and review. Participating schools will need to draw up clearly focused agreement plans with LEA consultants so that ‘internal’ school capacity to share approaches is enhanced.

The Leading in Learning programme promotes the systematic and explicit teaching of thinking skills in cycles of *three lessons* across *three subjects*, known as the *3-lesson cycle*. In this way, systematic coverage of key aspects of thinking skills can be ensured, and ultimately these can become located in subject schemes of work.

Such a plan needs to be developed over time. Establishing a lesson model with a clear focus on thinking, collaboration and metacognition, developing collaborative planning cycles and engaging teams of teachers are essential steps towards embedding practice. Experience from the pilot indicates that a trio of teachers would need to complete between two and four cycles with one class (one to two terms’ work) before scaling up to three full departments and, hence, an entire year group of pupils. Schools with greater capacity could start a trio in a second year group, say Year 8, before the first trio has scaled up to involve the whole of the first year group (say Year 7). Using this approach it would be possible to establish the programme by the end of the first academic year. Such a model would make good
use of the consultancy available during the first year of development but would be
costly in terms of teacher release and is reliant on the school identifying six strong
teachers to spearhead this development.

As teachers become more aware of different thinking skills they are better able to
judge pupils’ strengths and weaknesses and make adjustments to the balance of
the programme. Eventually they are able to plan for progression in teaching
thinking skills, increasing the degree of challenge as pupils move through the key
stage. This process will be supported by the publication of website case studies as
models for developing progression in thinking skills are further researched and
developed.
Model for whole-school implementation

Findings from the pilot

Most participating schools saw the pilot as the first phase of a whole-school initiative, and began to develop innovative approaches to ‘scaling up’. When selecting teachers and subjects to run the 3-lesson cycles, most schools adopted a policy of working, in the first instance, with teachers who were best placed to take the initiative on, with a conscious eye on their potential use as coaches with others. However, as the pilot progressed, many schools began to make more strategic decisions about which aspects of thinking were best suited to which subjects, and to ensure that pupils had experience of a range of strategies.

Considerations for whole-school implementation

Senior leaders need to plan for systematic coverage of the five National Curriculum thinking skills across the key stage. Consideration needs to be given to identifying which subjects are best placed to ‘launch’ and develop aspects of thinking and learning, using the 3-lesson cycle. This needs to be coupled with consideration of which groups of teachers, across subjects, are most suited to be in the vanguard of the initiative. This requires a ‘phased’ approach to whole-school implementation that takes account of the need to build from areas of strength, but to ‘scale up’ to involve all subjects to ensure the entitlement of all pupils.

The aim of this initiative is to establish a systematic programme for teaching thinking skills at Key Stage 3. The table on page 13 sets out just one example of how this might be done. The following elements need to be considered.

Coverage of thinking skills

The first element relates to coverage of the five National Curriculum thinking skills. It is important to ensure that:

- Two or three thinking skills are addressed in each year, usually focusing on one thinking skill in a cycle. In order to develop progression, it is preferable to concentrate on the same thinking skill over several cycles.

- All thinking skills are addressed during the key stage, not necessarily with equal emphasis, but based on evidence of progress and pupil development needs. In addition, Enquiry can be viewed as an overarching skill which makes use of all the others. So a possible variation would be to cover the other four systematically in Years 7 and 8, giving greater prominence to Enquiry in Year 9.
### Example to show how thinking skills might be addressed in 3-lesson cycles

<table>
<thead>
<tr>
<th>National Curriculum thinking skills</th>
<th>Year 7</th>
<th>Year 8</th>
<th>Year 9</th>
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</thead>
<tbody>
<tr>
<td><strong>Information processing</strong></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>■ Locate and collect relevant information</td>
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<tr>
<td>■ Sort, classify and sequence</td>
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<tr>
<td>■ Compare and contrast</td>
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<tr>
<td>■ Analyse part/whole relationships</td>
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<tr>
<td><strong>Year 7 Departments:</strong> English, art, history</td>
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<tr>
<td><strong>Strategies (4 cycles):</strong></td>
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<tr>
<td>■ Classifying</td>
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<td>■ Advance organisers</td>
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<td>■ Relational diagrams</td>
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<tr>
<td>■ Classifying</td>
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<tr>
<td><strong>Reasoning</strong></td>
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<tr>
<td>■ Give reasons for opinions and actions</td>
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<td>■ Make inferences and deductions</td>
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<tr>
<td>■ Explain thoughts with reasons</td>
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<tr>
<td>■ Make decisions based on evidence</td>
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<tr>
<td><strong>Year 8 Departments:</strong> mathematics, geography, MFL</td>
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<tr>
<td><strong>Strategies (2 cycles):</strong></td>
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<tr>
<td>■ Living graphs</td>
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<tr>
<td>■ Reading images</td>
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<td>■ Analogies</td>
<td></td>
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<tr>
<td>■ Audience and purpose</td>
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<tr>
<td><strong>Evaluation</strong></td>
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<tr>
<td>■ Evaluate information</td>
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<tr>
<td>■ Develop criteria for judging</td>
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<tr>
<td>■ Judge value with confidence</td>
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<tr>
<td><strong>Year 9 Departments:</strong> science, ICT, design and technology</td>
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<tr>
<td><strong>Strategies (4 cycles):</strong></td>
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<tr>
<td>■ Collective memory</td>
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<td>■ Collective memory</td>
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<td>■ Summarising</td>
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<td>■ Relational diagrams</td>
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<tr>
<td><strong>Creative thinking</strong></td>
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<tr>
<td>■ Generate and extend ideas</td>
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<tr>
<td>■ Hypothesise</td>
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<td>■ Apply imagination</td>
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<tr>
<td>■ Look for alternative outcomes</td>
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<td><strong>Year 9 Departments:</strong> science, ICT, design and technology</td>
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<tr>
<td><strong>Strategies (2 cycles):</strong></td>
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<td>■ Reading images</td>
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<td>■ Living graphs</td>
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<td>■ Audience and purpose</td>
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<td>■ Relational diagrams</td>
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<tr>
<td><strong>Enquiry</strong></td>
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<tr>
<td>■ Ask questions</td>
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<td>■ Pose and define problems</td>
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<td>■ Plan what to do and how to research</td>
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<tr>
<td>■ Predict outcomes</td>
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<tr>
<td>■ Test conclusions and improve ideas</td>
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<td><strong>Year 8 Departments:</strong> mathematics, geography, MFL</td>
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<td>■ Mysteries</td>
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Progressive development through the key stage

There are two aspects to this.

- **Establishing** the programme over a period of time. It is recommended that schools take a phased approach to introducing the programme, to ensure that it is manageable and built on a lasting foundation. The usual sequence would be to start in Year 7 (Focusing) for one or two terms, extending to Year 8 (Developing) for a similar period of time and then to Year 9 (Establishing). The shortest time for full implementation would be one academic year. This would involve perhaps only three cycles before scaling up and a trio in the second or third year group starting cycles before the previous trio has scaled up. A more gradual approach with one new trio beginning with a new year group at the end of two terms as the experienced trio scale up could take up to two years.

- **Enhancing** the programme (the fourth phase) by reviewing coverage of thinking skills to ensure that pupils experience progression and increasing challenge as their skills develop.

3-lesson cycles

Having clarified the two dimensions of the table, the next element to consider is the establishment of **3-lesson cycles** (see Handbook for teachers page 10 for details):

- It is feasible to complete one cycle each half-term, making possible six cycles in the year. Allocating one to each thinking skill would allow little scope for progression in a thinking skill in any one year. For this reason, it is preferable to focus on just two or three skills in the year.

- Continuity and progression are greatly enhanced when the same departments work together over a number of 3-lesson cycles with a particular year group. So an effective way of achieving coverage is to allocate three departments to each of the three years. With some adjustment at the margins this can ensure that, over time, most or all departments become involved. Variations on this model are possible, but it is this approach that is described in these materials.

Ten teaching strategies

The final element to be considered is the deployment of the ten teaching strategies (see Handbook pages 10 and 28 for details).

- Remember that the first focus is the thinking skill. The strategies are used as devices for developing the thinking skill.

- Initial considerations should be to select a strategy:
  - strong for the chosen thinking skill;
  - suited to all three subjects involved.

- It is important to maintain a balance in the use of particular strategies. Most can be used flexibly to address different thinking skills and, with familiarity, pupils and teachers are able to engage quickly with a strategy and get to the heart of the thinking challenge. However, beware that overuse of any one strategy could become tedious for pupils.
In summary, the intention is for systematic coverage. Taking on Leading in Learning guarantees pupils’ entitlement to being taught specific features of the National Curriculum thinking skills in ways appropriate to their year group, the subject being taught and based on an assessment of their needs. Hence the commitment and expectation is to ensure:

- coverage of the five National Curriculum thinking skills over the key stage;
- progression within the thinking skills across the key stage;
- the active involvement of most, if not all departments.

Page 16 gives an overview of the four phases: Focusing, Developing, Establishing and Enhancing. The rest of this Guide is devoted to setting out the steps involved.
**Overview of phases in the development of Leading in Learning**

### Focusing phase: all Year 7 pupils become involved

The school has selected Leading in Learning as a focus for whole-school development and the senior managers are committed to providing support to make it successful. There is recognition by all staff that this is the beginning of a long-term process. The senior leader and the three Leading thinkers have been identified and trained. The common target group of Year 7 pupils has been identified and logistical issues have been resolved. The trio of Leading thinkers and the senior leader have received some coaching from the consultant to develop aspects of pedagogy. Having selected the thinking skill(s) they wish to prioritise and the strategies to be used they have planned and delivered a number of 3-lesson cycles. Towards the end of this phase the whole-school launch takes place. As a development of this all departments are actively considering ways forward. In particular, teachers in the departments of the three Leading thinkers are all now engaged in developing the selected thinking skills so that all Year 7 pupils are involved in a 3-lesson cycle.

### Developing phase: all Year 8 pupils become involved

The approach is now well understood and employed by all teachers in the three departments teaching Year 7. All departments in the school are reviewing the role of thinking skills in their subject and experimenting with one or two strategies in other year groups. New Leading thinkers are developing their skills as they work together on the 3-lesson cycle with a group of pupils in Year 8. The senior leader, the consultant and the original trio of Leading thinkers provide coaching. A portfolio is being developed detailing the strategies used, the pupils involved and their responses. All teachers are being informed about the impact on pupils’ learning. The pupils are enjoying the lessons. A whole-school review occurs towards the end of the phase. As a development of this, three more departments become involved so that all pupils in Years 7 and 8 are experiencing systematic development of thinking skills through 3-lesson cycles.

### Establishing phase: all Year 9 pupils become involved

The Leading in Learning 3-lesson cycle is embedded in the practice of the teachers in six departments who teach Year 7 and Year 8 and is being established with Year 9 pupils. New Leading thinkers are developing their skills as they work together on the 3-lesson cycle with a group of pupils in Year 9 and are supported through coaching to develop their skills. Understanding of progression in thinking skills is increasing and teachers see real benefits for pupils across the full ability range. Collaboration between teachers is increasing and they are enjoying teaching thinking skills using the strategies. The portfolio of good practice is growing. A whole-school review occurs towards the end of the phase and as a development of this three more departments become involved, so that all year groups of pupils in Key Stage 3 are experiencing systematic development of thinking skills through 3-lesson cycles.

### Enhancing phase: teaching thinking skills becomes embedded in practice

Teaching thinking skills using the strategies is embedded in the practice of all teachers, resulting in systematic development of thinking skills in all three years of the key stage. Teachers new to the school are inducted into the Leading in Learning approach and are supported through coaching to develop their skills. The impact on pupils is being carefully monitored. This indicates that pupils are showing real progress in both thinking skills and subject attainment. As pupils transfer their skills more effectively the variation in attainment across different subjects is reduced. Most pupils relish the opportunities to demonstrate their skills in new contexts and see the potential of these skills in their ambitions beyond school. The benefits of collaboration across subjects for both teachers and pupils are acknowledged and this is resulting in a greater level of cross-subject working generally in the school.
Leading the development

Guiding principles

It is vital to get an overview of the main issues from a management perspective. From experience in the pilot some guiding principles emerged:

- Establish a small group of enthusiastic and forward-thinking teachers (‘Leading thinkers’) to spearhead the development. Allow time for this group to gain experience of 3-lesson cycles and use their input both as an important element of the whole-school launch and as a steering group to plan and implement future developments.

- Emphasise at all times that the overall aim is not simply to increase teachers’ repertoire of strategies but to give conscious attention to the development of pupils’ thinking skills. So as teachers carry out trials to become familiar with the strategies and the teaching approach they are also required to be giving informed attention to the thinking skills.

- Strategy guidance on coaching is particularly useful as a model of support (‘Selected references’, page 35). As teachers gain in experience of teaching thinking skills they should be given the opportunity to develop their coaching skills in order to more skilfully support colleagues.

Roles and responsibilities

Key personnel in leading the development are the senior leader and key teacher who attend the LEA half-day launch with schools. They will need to meet with the lead consultant for Leading in Learning to plan the implementation in school. Assuming that the key teacher is one of the three Leading thinkers who will develop the initial 3-lesson cycles, two further members of staff from different departments will be identified, forming a steering group of four staff in the school to lead the development.

A member of the school’s senior leadership team should manage the process. This senior leader will have a key coordination and management role in the process, acting as a conduit between the teachers involved and the school’s senior managers. The significant resource implications of the programme, and the flexibilities it requires, will also need to be managed by the senior leader.

When selecting the trio of Leading thinkers consideration needs to be given to their professional skills and abilities. They are key players who will have a crucial role to fulfil over an extended period of time in initiating and embedding the model of collaborative planning, observing and reviewing.

Support from the LEA lead consultant should be negotiated with care. The aim should be to keep this focused on helping the school to take responsibility for implementing the programme. Their input will be critical during the Focusing phase. It is likely to include:

- Planning and delivering Trio training prior to the establishment of 3-lesson cycles. The senior leader should be a participant in this training and two schools might consider joining together to facilitate networking.
Assisting the *Leading thinkers* in developing effective 3-lesson cycles and improving their thinking skills lessons through planning and coaching sessions. The aim should be that they gain the knowledge, skills and confidence to play a key part in subsequent developments.

Planning for the whole-school launch and perhaps supporting the delivery of it.

Beyond the point of the whole-school launch, schools will need to discuss with the consultant what will be most helpful in moving the school forward. This could include further direct input in terms of training, planning and coaching sessions. Lead consultants will also be able to link schools into local networks and update them on national developments. Other Key Stage 3 strand consultants might help teachers of specific subjects to contribute to the teaching of thinking skills.

**Preparatory reading**

The half-day launch by the LEA will have introduced salient features of Leading in Learning and provided a brief overview of materials in the school pack. Following this training, some reading is advised. In addition to earlier sections of this *Guide*


The rest of this chapter addresses each phase of implementation in turn. Each section begins with an overview, accompanied by just one illustrative example. **Please note that this is only an example, to give clarity to the explanation. It should not be taken as the preferred pattern of implementation.** Tasks to be undertaken are tabulated, with points for consideration and reference to supporting resources. By giving greater detail for the earlier phases, the aim is to support school leaders through a process whereby they can take increasing control over the pace and direction of the development.
Focusing phase

Note: Page numbers in left-hand column refer to the School training manual.

<table>
<thead>
<tr>
<th>In-school training</th>
<th>Focusing: all Year 7 pupils become involved</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trio training' page 13</td>
<td>The school has selected Leading in Learning as a focus for whole-school development and the senior managers are committed to providing support to make it successful. There is recognition by all staff that this is the beginning of a long-term process. The senior leader and the three Leading thinkers have been identified and trained. The common target group of Year 7 pupils has been identified and logistical issues have been resolved. The trio of Leading thinkers and the senior leader have received some coaching from the consultant to develop aspects of pedagogy. Having selected the thinking skill(s) they wish to prioritise and the strategies to be used they have planned and delivered a number of 3-lesson cycles.</td>
<td>School Strategy manager leads on this. The 3 subjects are English, art and history. Class 7xx are chosen. The thinking skill is Information processing and the strategies are: ■ Classifying ■ Advance organisers ■ Relational diagrams</td>
</tr>
<tr>
<td>Whole-school launch page 25</td>
<td>Towards the end of this phase the whole-school launch takes place.</td>
<td>7xx experience 4 cycles (over two terms) using the strategies above and repeating use of the ‘Classifying’ strategy</td>
</tr>
<tr>
<td>Working within departments’ page 43</td>
<td>As a development of this all departments are actively considering ways forward.</td>
<td>Pupils in Year 9 experience lessons on thinking skills from all departments except English, art and history. These teachers do not operate as trios at this point</td>
</tr>
<tr>
<td>Working across departments’ page 53</td>
<td>In particular, teachers in the departments of the three Leading thinkers are all now engaged in teaching the chosen strategies so that all Year 7 pupils are involved in a 3-lesson cycle.</td>
<td>All of Year 7 now work on Reasoning skills through English, art and history, this time using: ■ Living graphs ■ Reading images The original 3 teachers continue to lead planning and support other colleagues A new trio begins in 3 new departments with a Year 8 class (see developing phase)</td>
</tr>
</tbody>
</table>
**Initiating 3-lesson cycles:** *Leading thinkers* are identified and trained and teach several 3-lesson cycles to a selected Year 7 class.

### Findings from the Pilot

The collaborative planning and review process is very important. For teachers new to teaching thinking, it is an opportunity to work through the detail of the chosen strategy and ensure all teachers are agreed on the process and the particular focus. In the schools where the teachers were given time to do a review and collaborative planning between lessons there was a refinement of subsequent lessons. This was even greater when the teachers had observed one another’s lessons. They were able to make specific references to previous lessons and to develop pupils’ thinking more precisely.

Critical to this initial stage is the organisation of a suitable Year 7 class and the provision of time for the *Leading thinkers* to plan together, observe and review each other’s lessons.

<table>
<thead>
<tr>
<th>Task</th>
<th>Points for consideration</th>
<th>References</th>
</tr>
</thead>
</table>
| Identify the senior leader who will lead the programme in the school | **The person will need to be a senior school manager who will:**  
- gain a good understanding of the principles that underpin the Leading in Learning programme  
- take responsibility for managing the budget  
- devise and implement the monitoring process  
- organise pupil groupings to make the 3-lesson cycle possible  
- ensure the teachers identified as the *Leading thinkers* have planning, observation and debriefing time  
- keep the whole staff informed about the programme | Initial reading: *Handbook for teachers and School training manual* – refer to page 18 of this Guide |
| Identify the trio of *Leading thinkers* who will take forward the programme in its early stages and join the senior leader to form the leadership group | **These will be teachers who:**  
- come from three different departments, preferably including one core subject  
- are effective practitioners who make use of direct interactive teaching  
- demonstrate a willingness to engage in professional development which extends across subject boundaries  
- routinely use objective-led teaching and group work  
- recognise the significance of the plenary for metacognition  
- show an interest in thinking skills as well as having good subject expertise | Initial reading for *Leading thinkers* – refer to *Training manual*, ‘Trio Training’, page 15 |
| Identify the target group of pupils | Ideally this will be a Year 7 class that is taught by all three Leading thinkers
Where this is not possible, consider:
- either revising timetable or grouping arrangements to get a common group
- or selecting groups which have the maximum possible number of pupils in common |

| Establish links with the LEA Leading in Learning consultant and prepare for the programme | Senior leader and key teacher (one of the Leading thinkers) attend the LEA launch
At least one week before trio training, the senior leader and key teacher discuss the school's plan for establishing the programme with the consultant to:
- identify a Year 7 teaching group (see above)
- identify a thinking skill for the first 3-lesson cycle, based on consideration of pupils’ needs
- identify 2 or 3 possible strategies
- set dates for training, lessons, planning and review meetings
- notify Leading thinkers and agree support
Leading thinkers and senior leader are trained by the Leading in Learning consultant:
- exploring the thinking skills and selecting a strategy suited to the thinking skill that has been prioritised, taking into account the need to maintain progress in subjects
- examining the distinctive features of a thinking skills lesson, including the importance of the metacognitive plenary
- establishing structures for effective collaboration |

| Inform all staff | Prepare a briefing for the whole staff on outline plans for implementing the Leading in Learning programme
Arrange for staff updates as appropriate |

Training manual, ‘Planning agenda: 3-lesson cycle’, page 14
Handbook, ‘Thinking skills and strategy matching chart’, page 13
| Plan 3-lesson cycle and manage progression | Explore opportunities to integrate the lessons into existing planned units of work  
 Decide the order of lessons and objectives which make specific reference first to the thinking skill and then to the subject  
 Plan the timing and phasing of the lessons over a period of a week or two to allow for joint planning, observation/video, review, modification and monitoring  
 Discuss how to develop progression in the thinking skill by linking lessons and increasing the emphasis on metacognition, particularly in the plenary  
 Identify ways of eliciting pupil feedback  
 Organise coaching by the Leading in Learning consultant | Website subject exemplification  
 Handbook, ‘The 3-lesson cycle’, ‘Improving thinking skills lessons’, pages 10 to 22, and notes on selected strategy  
 Handbook, ‘Collaborative lesson planning template’, page 112, and ‘Lesson observation schedule’, page 113 |
| Inform pupils and parents | Brief participating pupils about the programme  
 Make decisions about the best way to keep pupils and their parents informed | Handbook, ‘Pupil information sheet’, page 115 |
| Monitor the process including impact on pupils’ learning | Decide how the Leading in Learning lessons and their impact on pupils’ learning will be monitored, and by whom  
 Consider ways of inducting pupils into the process of evaluating their own learning and any necessary documentation to support this  
 Act on the implications of the monitoring | Handbook, ‘Collaborative cycle review template’, page 114  
| Plan and teach further cycles | In the second cycle, focusing on the same thinking skill using a different strategy will make it easier to develop progression  
 Subsequent cycles might address a different thinking skill |
Whole-school launch and follow-on: the whole-school launch is prepared and delivered, there is follow-up in departments and the 3-lesson cycles are extended to involve all of Year 7.

Findings from the pilot

The 3-lesson cycle of teaching thinking and learning skills offers a model of manageable development in the teaching and transfer of thinking skills across the curriculum. It offers sufficient flexibility for schools that are at different starting points to initiate or extend developments. The model is initially small-scale, involving groups of three teachers, but provides possibilities for expansion across subject departments and the whole school. Some school Strategy managers have begun to review curriculum provision and have seen in the pilot the potential for whole-school implementation.

Considerations for whole-school implementation

While the approach is very effective when implemented properly, it does need sufficient time for planning and reviewing. School senior leaders, subject leaders and teachers need to be committed, determined and willing to devote resources to making this approach work. In particular, schools implementing the approach will need to make early decisions about the timetable and grouping policy so that the most effective 3-subject cycles can be established. While thinking and learning skills can be effectively introduced, taught and applied in the 3-lesson pattern, the major challenge is to ensure that other teachers know about and know how to capitalise on them, so that ‘thinking lessons’ become a widespread feature of teaching and learning at Key Stage 3, and the skills the pupils are developing can be transferred to other contexts across the curriculum.

Before the whole-school launch it is essential that the trio(s) of teachers have taught at least two 3-lesson cycles, i.e. one term. This is the minimum needed in order to gain the experience to lead colleagues with confidence. It is more likely that four cycles (two terms) would put them in a position, together with the senior leader, to form the leadership group that steers the initiative in the school and to provide coaching for colleagues.
<table>
<thead>
<tr>
<th>Task</th>
<th>Points for consideration</th>
<th>References</th>
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</table>
| **Plan the whole-school launch** | ■ At least half a term before the whole-school launch organise two meetings:  
  – senior leader, Leading thinkers and consultant plan the launch training, agree on input from the trials and follow-on departmental developments  
  – the same group meets with subject leaders to outline plans for (a) scaling up by the departments of Leading thinkers to involve all of Year 7, and (b) developmental work within other departments  
  ■ Whole-school half-day launch by senior leader, Leading thinkers and consultant  
  ■ Schedule four 30-minute follow-on departmental training sessions (see below) | **Training manual**, ‘Planning agenda: Whole-school launch’, page 26  
**Training manual**, ‘Planning agenda: Subject leaders’, page 27  
**Training manual**, ‘Whole-school launch’, pages 25 to 41 |
| **Training departments of Leading thinkers** | Use Leading thinkers and subject leaders to help train their departments to establish 3-lesson cycles with the whole of Year 7:  
  ■ Consider the role of thinking skills in each of the subjects. Prior to the second session, Leading thinkers and subject leaders agree on details and prepare handout ‘Focus for the next cycle’ from Training manual  
  ■ Organise the departments to teach a cycle using a common strategy, including arrangements for teacher partnerships, planning, teaching, observation and coaching (** See note below and example on page 26)  
  ■ Discuss the structure of a thinking skills lesson and the importance of the metacognitive plenary  
  ■ After teaching the cycle, have a review meeting and set up planning for subsequent cycles | **Training manual**, ‘Working across departments’, pages 53 to 62 |
| **Training all other departments** | Brief subject/faculty leaders to set up trials of thinking skills lessons in Year 8 or Year 9 classes:  
  ■ Consider the role of thinking skills in the subject, select one thinking skill as a focus and consider possible teaching strategies. Prior to the second session, prepare handout ‘Focus for trial’  
  ■ Organise the department to teach a thinking skills lesson all using the same teaching strategy, including arrangements for pupil groups, teacher partnerships, planning, teaching, observing and reviewing  
  ■ Discuss the structure of a thinking skills lesson and the importance of the metacognitive plenary  
  ■ Arrange a review meeting and plan further trials | **Training manual**, ‘Working within departments’, pages 43 to 51 |
Managing, monitoring and reviewing the process

<table>
<thead>
<tr>
<th>The leadership team, in discussion with the Leading in Learning consultant, will need to:</th>
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<tbody>
<tr>
<td>■ steer the development and ensure that practical arrangements for scaling up are working effectively</td>
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<tr>
<td>■ ensure that subject leaders are clearly briefed on their role</td>
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<tr>
<td>■ ensure that sufficient time is scheduled for planning, observation and review</td>
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<tr>
<td>■ monitor progress in the teaching of thinking skills and maintain arrangements for support and coaching of teachers by the Leading thinkers</td>
</tr>
<tr>
<td>■ negotiate deployment of the Leading in Learning consultant, where time is available</td>
</tr>
<tr>
<td>■ monitor the impact on pupils’ learning</td>
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</table>

** When scaling up to involve a whole year group of pupils it is important to sustain collaborative working by teachers, including joint planning, observation and review. This gives rise to logistical issues that can be addressed with some creative thinking that takes account of staffing circumstances. The case studies on the next page, looking at the circumstances of a large department (English) and a small one (art), illustrate how a solution might be formulated.
Case studies for Leading thinkers from two different departments

A Leading thinker from a core subject department of 4 or more teachers

Teacher
I am an English teacher. I teach one set in Y7. At the start I team up with a history and an art teacher, we choose one group and teach a number of cycles.

Subject/Faculty
Following the whole-school launch I work with the whole of the English department and take the lead in a review of thinking skills. I pair up teachers of Y7 with other members of the department and lead them on planning an English lesson as part of the next 3-lesson cycle in Y7. One new English teacher pairs up with me as part of the ‘trio’ and we observe history and art.

Pupils
The initial group of Y7 pupils was mostly the same for the 3-lesson cycle (a small number only experienced 2 stages of the cycle). When we moved to the whole of the English and history departments we knew that all pupils would experience all lessons. To support English teachers outside the trio I organise the pairs to team-teach and I try to observe much of this.

A Leading thinker from a non-core subject department of 1 or 2 teachers

Teacher
I am an art teacher. I teach all of Y7. I team up with a history and an English teacher, we choose one group and teach a number of cycles.

Subject/Faculty
Following the whole-school launch I work with the PE, music and drama teachers and take the lead in a review of thinking skills. We choose 2 strategies which all will try with Y9 and we start a portfolio of ideas. I continue work as part of the ‘trio’ in Y7 but this now includes two English teachers (one new) and the original history teacher.

Pupils
The initial group of Y7 pupils was mostly the same for the 3-lesson cycle (a small number only experienced 2 stages of the cycle). When we moved to the whole of the English and history departments we knew that all pupils would experience all lessons. We needed to support teachers outside the trio to make sure the pupils had a consistent experience.
## Developing phase

Note: Page numbers in left-hand column refer to the *School training manual*.

<table>
<thead>
<tr>
<th>In-school training</th>
<th>Developing: all Year 8 pupils become involved</th>
<th>Example</th>
</tr>
</thead>
</table>
| 'Recycling “Trio training”' pages 69, 70 | The approach is now well understood and employed by all teachers in the three departments teaching Year 7. All departments are reviewing the role of thinking skills in their subject and experimenting with one or two strategies in other year groups. New Leading thinkers are developing their skills as they work together on the 3-lesson cycle with pupils in Year 8. The senior leader, the consultant and the original trio of Leading thinkers provide coaching. | The 3 subjects are mathematics, geography and MFL. Class 8yy are chosen. The thinking skill for the first two cycles is **Reasoning** and the strategies are:  
- Analogies  
- Audience and purpose  
The new thinking skill for the next four cycles is **Evaluation**. The strategy for the first two cycles (one term) is:  
- Collective memory  
**Year 7** continue to experience strategies to develop their **Information-processing** and **Reasoning** skills in 3-lesson cycles of English, art and history  
Pupils in Year 9 experience lessons on thinking skills from science, ICT, D&T, RE, music, citizenship and PE. These teachers do not operate as trios at this point |
| 'Whole-school review' page 63 | A portfolio is being developed detailing the strategies used, the pupils involved and their responses. All teachers are being informed about the impact on pupils’ learning. The pupils are enjoying the lessons. | All of Year 8 now work on the next 2 cycles on **Evaluation** skills through mathematics, geography and MFL, this time using:  
- Summarising  
- Relational diagrams  
The 3 Leading thinkers in these departments continue to lead planning and support other colleagues  
A new trio begins in 3 new departments with a Year 9 class (see Establishing phase). |

As a development of this, three more departments become involved and now all pupils in Years 7 and 8 are experiencing systematic development of thinking skills through 3-lesson cycles. 

A **whole-school review** occurs at the end of the phase.
Scaling up to involve Year 8 pupils: developments within and across departments continue and a new set of Leading thinkers develop 3-lesson cycles in Year 8, scaling up to involve all pupils in Year 8.

Findings from the pilot

Teachers have focused considerable attention on the plenaries of lessons. They have planned both the questions they will ask, and how best to model the metacognitive language the pupils need throughout the lesson. Some teachers have developed their own skills of questioning and of managing discussions. Enthusiasm is caught as teachers hear colleagues describing successful lessons and want to try out ideas for themselves.

By now the leadership group should have established a pattern of working. Some of the stages are cyclical and the checklists provided for the focusing phase will still be valid. Draw on the growing experience of teachers in the school, particularly the Leading thinkers, for input to training and to assist with coaching of colleagues. Time for collaboration remains a crucial part of the provision.

<table>
<thead>
<tr>
<th>Task</th>
<th>Points for consideration</th>
<th>References</th>
</tr>
</thead>
</table>
| Monitor and facilitate developments in Year 7 and other years | ■ Review the effectiveness of the 3-lesson cycles and continue to provide opportunities for collaborative working between the three departments  
■ Support teachers in improving thinking skills lessons. When appropriate, provide training in small groups of teachers using the three 30-minute sessions on the plenary, the most challenging part of the lesson to teach  
■ Begin to build up a portfolio recording thinking skills addressed, strategies used, pupil response and impact on learning. Identify and respond to any emerging issues | Handbook, ‘Improving thinking skills lessons’, ‘Troubleshooting’, ‘Developing progression in thinking skills’, pages 16 to 27  
Training manual, ‘Developing metacognitive plenaries’, page 73 |
| Establish 3-lesson cycles with a Year 8 class | ■ Identify a new set of Leading thinkers in three different departments, preferably including one core subject  
■ Identify a target group of pupils in Year 8  
■ Plan the training of the new Leading thinkers:  
  – select a thinking skill to complement those chosen for Year 7  
  – consider suitable teaching strategies, aiming for some variety  
■ Invite a Leading thinker from the leadership group to train the new Leading thinkers using adaptations suggested for recycling Trio training  
■ Facilitate collaboration between the new group of Leading thinkers in teaching at least two 3-lesson cycles with the selected class | Training manual, ‘Planning agenda: 3-lesson cycle’, page 14  
Training manual, ‘Recycling “Trio training”’, page 70 |
<table>
<thead>
<tr>
<th>Plan a whole-school review</th>
<th>Training manual, ‘Planning agenda: Whole-school review’, pages 63 to 65</th>
</tr>
</thead>
<tbody>
<tr>
<td>At least half a term before the whole-school review organise a meeting between the leadership team and the consultant:</td>
<td>Planning template for half-day training, pages 66 to 68</td>
</tr>
<tr>
<td>- plan input from <em>Leading thinkers</em> and subject leaders on pupils’ progress to date and steps to further improvement</td>
<td></td>
</tr>
<tr>
<td>- plan input from the senior leader on progress of different groups, mapping the initiative and next steps</td>
<td></td>
</tr>
<tr>
<td>Whole-school half-day review</td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Expand 3-lesson cycles to involve the whole of Year 8</th>
<th>Training manual, ‘Recycling “Working across departments”’, page 72</th>
</tr>
</thead>
<tbody>
<tr>
<td>Following the whole-school review, invite the new <em>Leading thinkers</em> and subject leaders to train their departments to establish 3-lesson cycles with the whole of Year 8:</td>
<td></td>
</tr>
<tr>
<td>- Prepare handout ‘Focus for the next cycle’, agreeing a thinking skill and strategies to consider</td>
<td></td>
</tr>
<tr>
<td>- Follow the adaptations to training sessions suggested for recycling ‘Working across departments’</td>
<td></td>
</tr>
<tr>
<td>- Schedule time for planning, observation, coaching and review</td>
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</table>

<table>
<thead>
<tr>
<th>Managing, monitoring and reviewing the process</th>
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<tbody>
<tr>
<td>The leadership team should:</td>
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<tr>
<td>- Continue to support developments in the teaching and monitor the impact on pupils’ learning</td>
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<tr>
<td>- Liaise with the Leading in Learning consultant on implementation issues</td>
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</table>
Establishing phase

In-school training

‘Developing metacognitive plenaries’, page 73

‘Recycling “Trio training”’, page 70

Establishing: all Year 9 pupils become involved

The Leading in Learning 3-lesson cycle is embedded in the practice of the teachers in six departments who teach Year 7 and Year 8 and is being established with Year 9 pupils.

‘Whole-school review’ page 63

A whole-school review occurs at the end of the phase and, as a development of this, most or all departments become involved and now all year groups of pupils are experiencing systematic development of thinking skills through 3-lesson cycles.

‘Recycling “Working across departments”’, page 72

Example

The 3 subjects are science, ICT and D&T

Class 9zz are chosen

The thinking skill for four cycles is Creative thinking and the strategies are:

■ Reading images
■ Living graphs and fortune lines
■ Audience and purpose
■ Relational diagrams

Class 9zz experience 4 cycles – one cycle using each of the 4 strategies above

Year 7 continue to experience strategies to develop their Information processing and Reasoning skills in 3-lesson cycles involving English, art and history

Year 8 continue to develop their skills of Reasoning and Evaluation skills in 3-lesson cycles involving mathematics, geography and MFL

Other pupils in Year 9 experience lessons on thinking skills from RE, music, citizenship and PE. These teachers do not operate as trios at this point

Understanding of progression in thinking skills is increasing and teachers see real benefits for pupils across the full ability range. Collaboration between teachers is increasing and they are enjoying teaching thinking skills using the strategies. The portfolio of good practice is growing.

All of Year 9 now work in the next 2 cycles on Enquiry skills through science, ICT and D&T, this time using:

■ Mysteries

The 3 Leading thinkers in these departments continue to lead planning and support other colleagues. They are the only three in these departments to operate formally as a trio
Scaling up to involve all Year 9 pupils: 3-lesson cycles continue in Years 7 and 8 and a new set of *Leading thinkers* develop 3-lesson cycles in Year 9, scaling up to involve all pupils in Year 9.

This phase completes the scaling up to involve all pupils in Key Stage 3. The notes on scaling up to a full year group, as given in the Developing phase, would be equally relevant here. Use these as appropriate.
### Enhancing phase

#### In-school training

**Enhancing: teaching thinking skills becomes embedded in practice**

Teaching thinking skills using the strategies is embedded in the practice of all teachers, resulting in systematic development of thinking skills in all three years of the key stage.

<table>
<thead>
<tr>
<th>Year 7</th>
<th>Year 8</th>
<th>Year 9</th>
</tr>
</thead>
<tbody>
<tr>
<td>continue to experience strategies to develop their <strong>Information-processing</strong> and <strong>Reasoning</strong> skills in 3-lesson cycles involving English, art and history.</td>
<td>continue to develop their <strong>Reasoning</strong> and <strong>Evaluation</strong> skills in 3-lesson cycles involving mathematics, geography and MFL.</td>
<td>continue to develop their <strong>Creative thinking</strong> and <strong>Enquiry</strong> skills in 3-lesson cycles involving science, ICT and D&amp;T.</td>
</tr>
</tbody>
</table>

#### Selections from School training manual as required

Teachers new to the school are inducted into the Leading in Learning approach and are supported through coaching to develop their skills.

The impact on pupils is being carefully monitored. This indicates that pupils are showing real progress in both thinking skills and subject attainment. As pupils transfer their skills more effectively the variation in attainment across different subjects is reduced. Most pupils relish the opportunities to demonstrate their skills in new contexts and see the potential of these skills in their ambitions beyond school.

The benefits of collaboration across subjects for both teachers and pupils are acknowledged and this is resulting in a greater level of cross-subject working generally in the school.

Trios of **Leading thinkers** take responsibility for gathering evidence of pupils’ progress in each of the 3 year groups.

Core subjects begin to explore joint working at **Key Stage 4** for a target group of underachieving pupils. They begin with **Enquiry** skills as a bridging project from Year 9 to Year 10 and as a crucial skill for Key Stage 4 coursework.

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**Leading in Learning: developing thinking skills at Key Stage 3** Guide for school leaders

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Reviewing provision: there is a review of progression in thinking skills and coverage across the key stage and adaptations are made as necessary.

Scaling up is complete and it is appropriate to review coverage and progression in thinking skills at Key Stage 3 and make adjustments where needed. By now, the body of knowledge and experience of teaching thinking skills will have grown and the experience of other schools should be a valuable source of guidance. This might be in the form of case studies on the DfES website, information from consultants or via local networks.

<table>
<thead>
<tr>
<th>Task</th>
<th>Points for consideration</th>
<th>References</th>
</tr>
</thead>
</table>
| Review progress in learning and teaching of thinking skills | Consider these questions and make improvements as appropriate:  
- What evidence is there of progress in thinking skills for different groups of pupils?  
- Do all teachers plan effectively for developing pupils’ thinking skills by increasing the degree of challenge:  
  - in 3-lesson cycles?  
  - across a sequence of cycles?  
  - across the key stage?  
- Are there developments in ways of assessing learning of thinking skills (e.g. application of the SOLO model) that might help you to improve your own assessment processes? | Portfolio of evidence gathered by the school Handbook, ‘Developing progression in thinking skills’, pages 25 to 27 |
| Review coverage of thinking skills | Consider these questions and make adjustments where necessary:  
- Based on pupil needs and evidence of progress, is the allocation of thinking skills:  
  - appropriately balanced across the key stage?  
  - suitable for all groups of pupils?  
- Allocation of departments:  
  - are all or most departments involved in teaching thinking skills?  
  - are trios of subjects appropriately grouped?  
  - is the allocation of trios to year groups appropriate?  
- Allocation of strategies:  
  - are strategies well-matched to the trios of subjects involved in 3-lesson cycles?  
  - do pupils experience a good range of strategies across the key stage?  
  - are some strategies under- or over-used? | Handbook, Appendix 2 ‘Further steps in developing progression’, pages 117 to 120 |
| Staff development arising from the process of review | Consider:  
- Time needed for planning, observation and review to strengthen or revise 3-lesson cycles  
- Induction of staff new to the school  
- Further needs in terms of training or coaching | Training manual, selections as required |
Beyond this point you might look forward to ways of capitalising on pupils’ developing thinking skills in Key Stage 4 and ensuring that you continue to build on progress made. This could include:

- Bridging projects at the end of Year 9 which bring together the five thinking skills within an extended enquiry or investigation. Such projects might be organised within subjects or collaboratively across two or three subjects.

- Extending the collaborative approach into Key Stage 4, perhaps to develop pupils’ thinking skills in the context of coursework.

Finally, an evaluation question:

*Has the implementation of Leading in Learning in the school been successful?*

In making a judgement it will be important to look beyond the immediate context of 3-lesson cycles of thinking skills lessons and consider the extent to which, through a process of infusion by both pupils and teachers, there are visible benefits in other lessons. The acid test will be that pupils are aware of their enhanced thinking skills and of their capabilities as learners and that this leads to higher standards in all subjects.
Selected references

**Key Stage 3 National Strategy**

Pedagogy and practice: Teaching and learning in secondary schools (DfES 0423-2004 G). Of particular relevance are:

Unit 5: Starters and plenaries

Unit 7: Questioning

Unit 10: Group work

Unit 16: Leading in Learning

Sustaining improvement: a suite of modules on Coaching, Running networks and Building capacity (DfES 0565-2003 G)

Training materials for the foundation subjects (DfES 0350/2002), particularly these modules:

11 Principles for teaching thinking

12 Thinking together

13 Reflection

14 Big concepts and skills

**Teaching thinking skills**

A list of references is given in the Leading in Learning Handbook for teachers, Appendix 3 ‘The evolution of teaching thinking skills’, pages 125 to 126.