

Module 14

Big concepts and skills

Big concepts and skills

Objectives

- To identify some principal concepts and skills in foundation subjects
- To understand how the concepts may contribute to improved understanding and motivation
- To consider the importance of principal concepts and skills to curriculum planning

This module would be useful for:

- senior managers with responsibility for curriculum, teaching and learning or achievement;
- departments which are reviewing curriculum plans or investigating teaching and learning.

Resources

- OHTs 14.1–14.6
- Handouts 14.1–14.5 (Handout 14.5 is OHT 14.6.)
- Appendix 14.1, Extract from *The Infinite Plan* by Isabel Allende
- Copies of extracts of National Curriculum programmes of study for modern foreign languages and music, and the *Framework for teaching English: Years 7, 8 and 9*
- Coloured pencils or highlighters (red, yellow and green)

Session outline

75 minutes

14.1	Introducing big concepts and skills	10 minutes
14.2	Important cognitive skills	45 minutes
14.3	Classifying learning outcomes	10 minutes
14.4	Ready for more?	10 minutes

Notes for presenters

Feedback from the pilot suggests that this module works well and the core activity is stimulating. However, with large audiences, for example a whole school or an LEA foundation subjects day, it is difficult to get the majority of the audience to identify the changes they can make in their planning. This difficulty might be addressed in four ways:

- Use the module with smaller audiences who have done some work on teaching thinking and are really ready to think harder about planning.
- Once you have a local case study of how one department has taken their planning forward, use it to support the module.
- Use the module with departments that you are going to support.

- As the module does ask serious questions about whole-curriculum planning, ensure that there is a senior teacher or foundation subjects teacher ready and able to provide support for the next step.

There are strong links between this module and module 5 'Explaining' and module 13 'Reflection'.

There is a tendency for lessons to focus on the detailed content of a unit of work. It is less common for emphasis to be given to the larger patterns that characterise the distinctiveness of learning in a subject. These patterns are the important concepts in a subject and the procedural knowledge or important skills. Having both higher-order concepts and procedural skills underpins good performance in subjects. Further, these skills may be the subject of metacognitive monitoring and control. Without explicit attention to the skills and concepts, the transfer of learning from one context to another is less likely.

The module is intended to encourage teachers and managers to become aware of the existence of these skills and concepts, because of their importance both in individual subjects and in planning the whole curriculum.

14.1 Introducing big concepts and skills 10 minutes

Show **OHT 14.1** to highlight the objectives for the session.

Handout 14.1

Reflecting on some important cross-curricular skills for learning

Having read the extracts from the Framework for Teaching English, Years 7, 8 and 9 and the programmes of study for modern foreign languages and music, consider these questions:

- Do the skills developed and practised in the first task have relevance in English, MFL and music?
- Is enough attention given to developing them?
- How can they be developed?

Show **OHT 14.2** and use the accompanying notes to introduce the notion of big or principal concepts and skills.

OHT 14.2

Big concepts and learning

A knowledge of principal concepts in foundation subjects can help:

- to provide pupils with the ability to see patterns in new learning situations, tasks and problems;
- to provide a foundation for assisting pupils in transferring their learning;
- pupils to become more independent and motivated learners.

When anyone is faced by a new task with lots of information they are easily confused and overwhelmed. Research on chess grandmasters has revealed that if they are shown a board in a state of play for only a few seconds they can memorise the position of all the pieces on the board. By contrast, novice chess players can memorise only a few pieces and positions.

What the expert sees is not individual pieces but **patterns of pieces**, which are parts of set plays. These are learned through experience over time. Grandmasters do not have a greater short-term memory capacity, but they can recall groups of pieces rather than individual pieces. They see a pattern. The expert has a better memory of typical states of play that enables them to recognise more of what they see. Thus they are better able to make sense of chessboards and better able to plan and think ahead.

A research study of the teachers of numeracy at Key Stage 2 found that the most effective teachers emphasised to pupils the connections between topics. They were helping pupils to see the pattern in the subject, rather than presenting the subject as a series of individual topics.

14.2 Important cognitive skills

45 minutes

Task 1

20 minutes

Tell participants that you will read to them an account of Mexicans migrating to California in the twentieth century. (This is in **appendix 14.1**.) Their task, initially as individuals, is to record the meaning that they are able to make of this account, by drawing. Tell them that they can use one- or two-word annotations but should not take notes; they should be drawing symbols and stick people to represent the meaning of the story. Emphasise that this is not about artistic ability and acknowledge that some people will feel constrained or uncomfortable with the task. To provide a structure, ask them to draw a line across the middle of the page that should be labelled 'The border'. Above the line should be labelled 'USA' and below the line, 'Mexico'.

Tell the participants that you will put in some pauses to allow some think time. When you reach the section printed in italics, tell them they don't need to draw – they can just sit and listen. At the end of this section, tell them that they need to resume drawing.

Read the extract with a number of short pauses to prevent participants from being overwhelmed. Remind them that they can just listen during the passage printed in italics.

On finishing, ask them to work in pairs and discuss how they went about doing the task. Introduce the term **metacognition** – in simple terms, thinking about thinking. In discussing how the task was carried out they are using metacognition.

Show **OHT 14.3** to provide some prompts for reflection, but they are not questions which all need to be answered.

Thinking processes during the drawing task: questions to reflect upon OHT 14.3

- Did you draw as you listened or did you wait for pauses?
- Which of your symbols represent concrete phenomena and which represent abstract ones?
- Did you get visual images in your head? Where did they come from?
- What happened when you did not have to draw?
- What parts were difficult to make sense of?
- Did drawing the border and labelling the two countries provide a useful structure?

Allow participants 5 minutes to discuss. At the end of that time, tell them that many of the skills that they have used to listen to the story and to make sense of it are underpinned by their cognitive skills and ability to see pattern in detail.

Show **OHT 14.4** to help conclude the discussion and demonstrate the impact the activity can make on pupils' thinking.

Pupils' comments on the task OHT 14.4

- 'Doing this made me understand more what listening is about. Listening is more than having your ears open ... your brain has to work as well.'
- 'The pictures in your head, I get a lot of those and now I try and use them, like try to see things in pictures. You remember them better.'
- 'It made me realise why I don't understand teachers sometimes. When you hear a load of hard words, like the *hasslender* [*hacienda*] bit, you switch off because it is too hard. But it's not your fault, it's more the teacher, so I do ask more questions when I don't understand.'
- 'Drawing the symbols was really good. We kept thinking "How do you draw that?" and made you think what it was about. We compared our symbols and I could see how my partner had got different things out of it.'
- 'It made me really tired doing that. It made me concentrate so hard, it seemed like it went on for hours. I want to do it with my Mum to see if she can do it.'

Task 2

15 minutes

Raise the general question about the value of the type of skills they have used to make sense of the story – are these skills important to pupils' ability to learn? Ask them to work in groups of four and distribute **handout 14.1**, which provides questions to help focus discussion, and **handout 14.2**, which contains extracts from the *Framework for teaching English: Years 7, 8 and 9* and the programmes of study for modern foreign languages and music.

Handout 14.1

Reflecting on some important cross-curricular skills for learning

Having used the extracts from the Framework for teaching English: Years 7, 8 and 9 and the programmes of study for modern foreign languages and music, consider these questions:

- Do the skills developed and practised in the first task have relevance in English, MFL and music?
- In what situations given to developing them?
- How can they be developed?

Handout 14.2
1 of 2

Extracts from the Framework for teaching English: Years 7, 8 and 9 and the programmes of study for MFL and music

Objectives from the Framework for teaching English (those in bold are key objectives)

Pupils should be taught to:

Text level – Writing

Year 7 – Plan, draft and present

- 1 **plan, draft, edit, review, proofread and present a text with readers and purpose in mind**
- 2 collect, select and assemble ideas in a suitable planning format, e.g. flow chart, list, star chart

Year 8 – Plan, draft and present

- 1 experiment with different approaches to planning, drafting, proofreading and presenting writing, taking account of the time available.

Speaking and listening

Year 7

- 6 **listen for and recall the main points of a talk, reading or television programme, reflecting on what has been heard to ask searching questions, make comments or challenge the views expressed**

Year 8

- 6 recognise their own skills, strategies and responses as listeners in different situations, e.g. to jokes, to directions, to information

Year 9

- 7 **listen for a specific purpose, paying sustained attention and selecting for comment or opinion that which is relevant to the agreed focus.**
- 4 reflect on and evaluate their own skills, strategies and responses as listeners in a variety of contexts.
- 7 **identify the underlying themes, implications and issues raised by a talk, reading or programme.**

Handout 14.2
2 of 2

Programme of study for MFL

Developing language skills – pupils should be taught:

- how to listen for gist and detail
- strategies for dealing with the unpredictable
- how to summarise and report the main points of spoken or written texts, using notes where appropriate
- how to use self-help setting to improve fluency and pronunciation, including the use of ICT

Developing language-learning skills – pupils should be taught:

- techniques for memorising words, phrases and short extracts
- how to use context and other clues to interpret meaning

Programme of study for music

Listening and applying knowledge and understanding – pupils should be taught:

- to listen with discrimination and to identify and recall sounds
- to identify the expressive use of musical elements, devices, tonalities and structures

After 10 minutes, move to a whole-group discussion (5 minutes) and make the following points (if they are not made by participants):

- 1 There are important connections to be made with the listening components of the *Framework for teaching English: Years 7, 8 and 9*.
- 2 If pupils are aware of thinking processes, there is more opportunity to work on improving them. It is hard to work on improving something if you don't know it exists. Pupils need to 'know how' as well as 'know that', if they are to become more independent learners. Remind participants of the concept of metacognition or 'thinking about thinking'.
- 3 Reflection is the key to developing greater awareness and precision in such skills.

Task 3

10 minutes

Return to the participants' maps and graphics about Mexican migration. Distribute **coloured pencils or highlighters**. Ask the participants, individually or in pairs, to analyse the evidence in their 'map' that relates to effects by completing the tasks on **handout 14.3**.

Instructions for task 3 Handout 14.3

- Return to your mapping of the Mexican migrants' story
- Underline or highlight anything that represents an effect in red
- For the unintended effects, underline in yellow if it is a long-term effect and in green if it is a short-term effect

In discussion, make the point that once pupils have a grasp of short- and long-term effects they can begin to look for that recurring pattern in all manner of scenarios through these big concepts. It can help them make sense of new situations and not be overwhelmed; it can help them to recall detail and make connections between topics. This insight into causation applies to broad swathes of the humanities, for example.

14.3 Classifying learning outcomes 10 minutes

Introduce the framework from the research on **intended learning outcomes**.

OHT 14.5 shows the framework. Distribute **handout 14.4**, which shows the framework with additional notes. Use these details to present the OHT.

Classification of intended learning outcomes OHT 14.5

- Modular
- Longitudinal
- Background

Classification of intended learning outcomes Handout 14.4

Modular
Outcomes related to the specific content of a unit of work, which is taught and assessed within or at the end of the unit. Typically facts and knowledge that can be tested in short answers.

Longitudinal
Outcomes related to a number of units of work, which therefore can be taught and assessed over a number of units. Typically recurring skills such as the use of bar graphs or aspects of speaking.

Background
Outcomes that permeate the subject and represent its essential characteristics. Specify the units of discussion or a critical approach to information.

The researchers who developed this classification also found that background objectives were rarely made explicit or assessed, despite being regarded by teachers as the most important learning outcomes.

Stress that the longitudinal and background outcomes relate to the types of skills used in the drawing task, which are needed in most National Curriculum subjects. They are also related to the concept of 'cause and effect' which underpins understanding in many subjects. These types of skills and concepts provide the connecting threads both within and across subjects.

Ask participants to discuss the handout and to consider the implications it has for planning and teaching in their subject. Take feedback before moving the discussion onward.

14.4 Ready for more?

10 minutes

Conclude by showing **OHT 14.6** and distribute it as **handout 4.5**, which draws together a number of points about how to proceed, with the aim of improving pupils' grasp of principal concepts and skills. Stress that there is an important role for senior managers in supporting fundamental rethinking about curriculum planning. Furthermore, developing pupils' insights into big concepts and skills is greatly helped by their having words to describe them. This idea is taken further in module 13 'Reflection' and module 8 'Plenaries'.

<p>Ready for more? OHT 14.6/Handout 14.5 1 of 2</p> <p>In curriculum analysis and planning:</p> <ul style="list-style-type: none"> • analyse the first pages of the programmes of study and some GCSE examination papers to identify critical skills in making sense of information and solving problems; • similarly, analyse documents for underlying concepts, which may be implicit as well as explicit; • analyse pupils' work or examination scripts to identify what lower-achieving pupils are failing to do or understand; • provide staff with opportunities to reflect upon the skills and concepts which constitute the essence of the subject and which characterise the work of the more successful; • make such concepts and skills explicit in schemes of work and plan tasks which aim to develop understanding of them. 	<p>OHT 14.6/Handout 14.5 2 of 2</p> <p>In teaching:</p> <ul style="list-style-type: none"> • make principal concepts and skills more explicit in introductions and plenaries – such as strategies for listening for gist and detail, using visual representations for summarising; • encourage pupils to reflect on how tasks have been done to make the strategies and skills they have used more explicit; • provide opportunities for self-assessment, especially in relation to skills; • make connections between topics and where possible to other subjects – long- and short-term causes provide a framework that can be used in understanding geography, RE or English literature just as much as in history.
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Ask participants to discuss the suggestions listed, selecting those they feel are particularly important. Take feedback and stress that, although not listed on the OHT, it is important to highlight work on big concepts in audits, action plans and school improvement plans.

Distribute **handout 14.6**. It provides one tool to help teachers to think about important cognitive processes involved in open tasks. It lists terms that could be used as a basis for metacognitive discussion with pupils. It is, however, only one way of approaching the topic and should not be seen as conflicting with the way thinking skills are described in the National Curriculum.

Cognitive skills (adapted from Feuerstein's Cognitive Functions)

Handout 14.6

Taking information in

1. Using all the senses, especially looking and listening, to gather clear and complete information
2. Using a plan or system so that you do not miss something or waste effort
3. Giving a name to the things that you gather through your senses
4. Recognising where and when things are in space and time
5. Recognising in many characteristics of a thing or event as possible
6. Using previous knowledge to make sense of the information

Using information once it has been gathered

1. Making sure that you know what to do
2. Sorting relevant from irrelevant information
3. Using what you already know
4. Making a plan of the steps needed to do the task
5. Keeping in mind the different pieces of information that are needed
6. Looking for relationships that link together separate things, events and experiences
7. Identifying the values or assumptions you are using
8. Deciding on the category group or set to which a new object or experience belongs (classifying)
9. Generating possibilities, plans or solutions and evaluating them
10. Checking the parts against the whole and the whole against the parts
11. Taking account of the context and purpose of a task
12. Using logic and evidence to prove things and defend your position

Communicating the results of your thinking

1. Being clear and specific in your language
2. Thinking of your audience, putting yourself in their shoes
3. Preparing and rehearsing answers
4. Taking account of what others have said or written
5. Using all your thinking to support your ideas, e.g. drawing on mental images, models, examples, pictures and analogies to support your ideas

Extract from *The Infinite Plan* by Isabel Allende

Appendix 14.1

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As immigrants from Mexico arrived, they descended on friends or relatives, where often several families were already crowded together. The laws of hospitality were inviolable; no one was denied a roof or food during the first days, but after a while each person was to fend for himself. They streamed in from towns south of the border, looking for work, with nothing to their names but the clothes on their backs, a bundle over their shoulders, and the will to get ahead in that Promised Land where, they had been told, money grew on trees and a clever man could become an impresario with his own Cadillac and a blonde on his arm. What they had not been told, however, was that for each success, fifty were left by the wayside and another fifty went back home defeated, nor did they realise that they themselves would not benefit but were destined to open the way to the children and grandchildren born on that hostile soil. They had no idea of the hardships of exile, how they would be abused by their employers and persecuted by the authorities, how much effort it would take to reunite their family, to bring their children and old people, or how great would be the pain of telling their friends goodbye and leaving their dead behind. Neither were they warned that they would quickly lose their traditions, or that recollections would corrode and leave them without memories. There was no way they could have foreseen that they would be the lowest of the low. But had they known, they might still have undertaken that voyage north.

Immacula and Pedro Morales were 'wire-cuttin' wetbacks' and, rocking with laughter, liked to tell how many times they had crossed the border, sometimes swimming the Rio Grande and other times cutting wire fences. They had returned to their native land several times on vacation, entering and leaving with children of all ages and even the grandmother, whom they had brought from her village after she was widowed and her mind began to fade. After several years they obtained legal papers, and their children were born as American citizens. There was always room at the Morales' table for new arrivals, and the second generation grew up hearing stories of poor devils who crossed the border hidden like contraband in the false bottom of the truck, or who jumped from moving trains or crawled underground through old sewer pipes, always with the terror of being caught by the immigration officers, the feared 'Migra', and sent back to their country in tethers after being booked as criminals. Some were shot by guards or died from hunger and thirst; others smothered to death in secret compartments of vans run by the 'coyotes', whose business it was to transport desperate people from Mexico to a town on the other side. At the time Pedro Morales made his first trip, Latinos still had the feeling they were reclaiming territory that had always been theirs.

For them, slipping across the border was not a crime but a righteous adventure. Pedro Morales had been twenty then; he had just completed his military service, and as he did not want to retrace the footsteps of his father and grandfather, impoverished campesinos on a hacienda in Zacatacas, he decided to make the trip north.

'The gringos are all crazy: they put peaches on meat and jam on fried eggs; they take their dogs to the beauty parlor and don't believe in the Virgin Mary; men wash the dishes inside the house and women wash cars outside on the street, wearing a bra and short shorts that show everything. But if we don't have anything to do with them, we can live the good life,' Pedro reported to his betrothed.

Objectives

OHT 14.1

- To identify some principal concepts and skills in foundation subjects
- To understand how the concepts may contribute to improved understanding and motivation
- To consider the importance of principal concepts and skills to curriculum planning

A knowledge of principal concepts in foundation subjects can help:

- to provide pupils with the ability to see patterns in new learning situations, tasks and problems;
- to provide a foundation for assisting pupils in transferring their learning;
- pupils to become more independent and motivated learners.

Thinking processes during the drawing task: questions to reflect upon

OHT 14.3

- Did you draw as you listened or did you wait for pauses?
- Which of your symbols represent concrete phenomena and which represent abstract ones?
- Did you get visual images in your head? Where did they come from?
- What happened when you did not have to draw?
- What parts were difficult to make sense of?
- Did drawing the border and labelling the two countries provide a useful structure?

- 'Doing this made me understand more what listening is about. Listening is more than having your ears open ... your brain has to work as well.'
- 'The pictures in your head, I get a lot of those and now I try and use them, like try to see things in pictures. You remember them better.'
- 'It made me realise why I don't understand teachers sometimes. When you hear a load of hard words, like the hassiender [*hacienda*] bit, you switch off because it is too hard. But it's not your fault, it's more the teacher, so I do ask more questions when I don't understand.'
- 'Drawing the symbols was really good. We kept thinking "How do you draw that?" and made you think what it was about. We compared our symbols and I could see how my partner had got different things out of it.'
- 'It made me really tired doing that. It made me concentrate so hard, it seemed like it went on for hours. I want to do it with my Mum to see if she can do it.'

Classification of intended learning outcomes

OHT 14.5

- Modular
- Longitudinal
- Background

In curriculum analysis and planning:

- analyse the first pages of the programmes of study and some GCSE examination papers to identify critical skills in making sense of information and solving problems;
- similarly, analyse documents for underlying concepts, which may be implicit as well as explicit;
- analyse pupils' work or examination scripts to identify what lower-achieving pupils are failing to do or understand;
- provide staff with opportunities to reflect upon the skills and concepts which constitute the essence of the subject and which characterise the work of the more successful;
- make such concepts and skills explicit in schemes of work and plan tasks which aim to develop understanding of them.

In teaching:

- make principal concepts and skills more explicit in introductions and plenaries – such as strategies for listening for gist and detail, using visual representations for summarising;
- encourage pupils to reflect on how tasks have been done to make the strategies and skills they have used more explicit;
- provide opportunities for self-assessment, especially in relation to skills;
- make connections between topics and where possible to other subjects – long- and short-term causes provide a framework that can be used in understanding geography, RE or English literature just as much as in history.

Reflecting on some important cross-curricular skills for learning

Handout 14.1

Having read the extracts from the *Framework for teaching English: Years 7, 8 and 9* and the programmes of study for modern foreign languages and music, consider these questions:

- Do the skills developed and practised in the first task have relevance in English, MFL and music?
- Is enough attention given to developing them?
- How can they be developed?

Extracts from the *Framework for teaching English: Years 7, 8 and 9* and the programmes of study for MFL and music

Handout 14.2

1 of 2

Objectives from the *Framework for teaching English* (those in bold are key objectives)

Pupils should be taught to:

Text level – Writing

Year 7 – Plan, draft and present

- 1 plan, draft, edit, revise, proofread and present a text with readers and purpose in mind;**
- 2 collect, select and assemble ideas in a suitable planning format, e.g. *flow chart, list, star chart*;

Year 8 – Plan, draft and present

- 1 experiment with different approaches to planning, drafting, proofreading and presenting writing, taking account of the time available;

Speaking and listening

Year 7

- 6 listen for and recall the main points of a talk, reading or television programme, reflecting on what has been heard to ask searching questions, make comments or challenge the views expressed;**

Year 8

- 6 recognise their own skills, strategies and responses as listeners in different situations, e.g. *to lyrics, to directions, to information*;
- 7 listen for a specific purpose, paying sustained attention and selecting for comment or question that which is relevant to the agreed focus;**

Year 9

- 4 reflect on and evaluate their own skills, strategies and successes as listeners in a variety of contexts;
- 7 identify the underlying themes, implications and issues raised by a talk, reading or programme.**

Programme of study for MFL

Developing language skills – pupils should be taught:

- how to listen for gist and detail;
- strategies for dealing with the unpredictable;
- how to summarise and report the main points of spoken or written texts, using notes where appropriate;
- how to re-draft their writing to improve its accuracy and presentation, including the use of ICT.

Developing language-learning skills – pupils should be taught:

- techniques for memorising words, phrases and short extracts;
- how to use context and other clues to interpret meaning.

Programme of study for music

Listening, and applying knowledge and understanding – pupils should be taught:

- to listen with discrimination and to internalise and recall sounds;
- to identify the expressive use of musical elements, devices, tonalities and structures.

Instructions for task 3

Handout 14.3

- Return to your map/drawing of the Mexican migrants' story.
- Underline or highlight anything that represents an effect in red.
- For the underlined effects, underline in yellow if it is a long-term effect and in green if it is a short-term effect.

Classification of intended learning outcomes

Handout 14.4

Modular

Outcomes related to the specific content of a unit of work, which is taught and assessed within or at the end of the unit. Typically, facts and knowledge that can be tested in short answers.

Longitudinal

Outcomes related to a number of units of work, which therefore can be taught and assessed over a number of units. Typically, recurring skills such as the use of bar graphs or aspects of speaking.

Background

Outcomes that permeate the subject and represent its essential characteristics. Typically the skills of discussion or a critical approach to information.

The researchers who developed this classification also found that background objectives were rarely made explicit or assessed, despite being regarded by teachers as the most important learning outcomes.

In curriculum analysis and planning:

- analyse the first pages of the programmes of study and some GCSE examination papers to identify critical skills in making sense of information and solving problems;
- similarly, analyse documents for underlying concepts, which may be implicit as well as explicit;
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- provide staff with opportunities to reflect upon the skills and concepts which constitute the essence of the subject and which characterise the work of the more successful;
- make such concepts and skills explicit in schemes of work and plan tasks which aim to develop understanding of them.

In teaching:

- make principal concepts and skills more explicit in introductions and plenaries – such as strategies for listening for gist and detail, using visual representations for summarising;
- encourage pupils to reflect on how tasks have been done to make the strategies and skills they have used more explicit;
- provide opportunities for self-assessment, especially in relation to skills;
- make connections between topics and where possible to other subjects – long- and short-term causes provide a framework that can be used in understanding geography, RE or English literature just as much as in history.

Cognitive skills (adapted from Feuerstein's Cognitive Functions)

Handout 14.6

Taking information in

- 1 Using all the senses, especially looking and listening, to gather clear and complete information
- 2 Using a plan or system so that you do not miss something or waste effort
- 3 Giving a name to the things that you gather through your senses
- 4 Recognising where and when things are in space and time
- 5 Recognising as many characteristics of a thing or event as possible
- 6 Using previous knowledge to make sense of the information

Using information once it has been gathered

- 1 Making sure that you know what to do
- 2 Sorting relevant from irrelevant information
- 3 Using what you already know
- 4 Making a plan of the steps needed to do the task
- 5 Keeping in mind the different pieces of information that are needed
- 6 Looking for relationships that link together separate things, events and experiences
- 7 Identifying the values or assumptions you are using
- 8 Deciding on the category, group or set to which a new object or experience belongs (classifying)
- 9 Generating possibilities, plans or solutions and evaluating them
- 10 Checking the parts against the whole and the whole against the parts
- 11 Taking account of the context and purpose of a task
- 12 Using logic and evidence to prove things and defend your position

Communicating the results of your thinking

- 1 Being clear and specific in your language
- 2 Thinking of your audience, putting yourself in their shoes
- 3 Preparing and rehearsing answers
- 4 Taking account of what others have said or written
- 5 Using all your thinking to support your ideas, e.g. drawing on mental images, models, examples, pictures and analogies to support your ideas