

## Thinking skills for Key Stage 3

# Metacognitive reflection exercises

*by*

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Do you think  
you know  
who I am?



See back page for answer.

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# About metacognitive reflection

A key part of any thinking skills activity is the metacognitive reflection that comes at the end.

Metacognitive reflection encourages pupils to

- ! discuss and be aware of their thinking and learning;
- ! develop a language to express their thinking;
- ! transfer their learning across subject areas; and
- ! gradually become more independent learners.

## About this collection

The exercises in this collection are intended to be used as a sequence which shows progression and increasing complexity.

Some of them already appear in a series of booklets on Irish history and the Secondary National Strategy\*, in the section entitled 'What and how have we learned?', but teachers may prefer to use them as appropriate to the needs of their pupils.

Some exercises are designed for teachers to set tasks orally (possibly Ex.4); some as card sort exercises (Ex.1,5) and some as work sheets that can be given to pupils (Ex.2,3).

Whichever way they are set, it is important that teachers take oral feedback and that pupils are expected to justify their decisions and answers.

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\* History departments in Blackpool's secondary schools are exploring how far Irish history can help them meet the requirements of the Secondary National Strategy in the Foundation Subjects. Each department is taking responsibility for one aspect of thinking skills and exchanging the results with the other departments. The pilot scheme is coordinated by Marian McQueen, Blackpool's Secondary Strategy Consultant. The booklets can be downloaded at: [http://iisresource.org/KS3\\_Strategy\\_History.aspx](http://iisresource.org/KS3_Strategy_History.aspx)

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|---|--|
| 1. Using an advance organiser                 | The Normans & Ireland                                  |
| 2. Fortune line                               | Comparing the lives of Grace O'Malley & Elizabeth I    |
|   | Michael Collins  |
| 3 & 4. Collective memory & Audience & purpose | Cromwell in Ireland                                    |
| 5. A mystery                                  | Reasons for an Irish diaspora                          |
| 6. Relational diagram                         | Fighting for whom? - 1916                              |
| 7. Reading images & Collective memory         | Murals in Northern Ireland                             |
| 8. Examining audience & purpose               | What do songs reveal about our study of Irish history? |

# Metacognitive reflection exercise 1

It is important that students have a vocabulary to express or communicate their thinking.

This first exercise, to be conducted early in the process, is designed to stimulate discussion of a range of 'thinking' words so that students understand them and use them in the right context in order to develop a language for learning.

For this exercise, pupils are provided with sets of cards and set the following tasks. Teachers can take feedback from the class at any stage they think appropriate.

1. Working in pairs, sort the cards provided into *two* groups, or categories:
  - ! Those you recognize or know the meaning of
  - ! Those that you do not know or recognise.
2. Explain to your partner what the ones you recognise actually mean, and discuss whether or not you both agree.
3. Working together, see if you can work out any of those that you do not know.
4. Join up with another pair to compare and discuss what you have decided and discovered.
5. Return to your original pairs and see if you can make sets of cards where you can explain a connection between them.
6. Now turn over all the cards so that they are face down, and see how many of them you can remember.

adapt	evaluate	link
apply	explain	negotiate
assess	hypothesise	organise
classify	identify	prioritise
compare	interpret	reflect
contrast	interrelate	sequence
convert	judge	structure
decide	justify	summarise
differentiate	juxtapose	visualise

## Metacognitive reflection exercise 2

adapt	evaluate	link
apply	explain	negotiate
assess	hypothesise	organise
classify	identify	prioritise
compare	interpret	reflect
contrast	interrelate	sequence
convert	judge	structure
decide	justify	summarise
differentiate	juxtapose	visualise

Working with a partner:

- L Choose any **3** skills from this list that you think you have used in this exercise, and be able to explain how and at which points you have used them.
- L Choose any **3** different skills from this list that you have used both in this exercise and in other subjects, and explain how and where you have used them in other subjects.
- L Choose any **3** different skills from this list that you have used both in this exercise and in other situations in your life and, again, explain where/ when/ how.

## Metacognitive reflection exercise 3

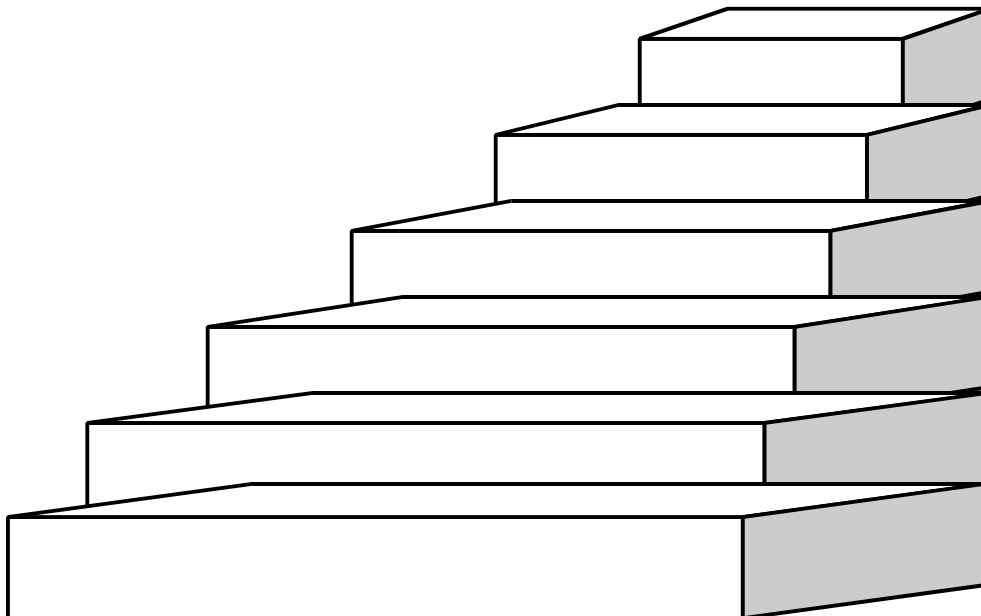
Professor Benjamin Bloom devised a 'stairway' with six steps to learning. It is a debatable estimate, but one worth considering. He used the following words to identify different levels of thinking:

<b>application</b>	<b>synthesis</b>	<b>knowledge</b>
<b>evaluation</b>	<b>comprehension</b>	<b>analysis</b>

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For each of the following tasks, you will work with a partner, and you will be expected to give reasons for all your answers.

- ! Your first task is to talk with your partner and try to work out what you think each of these words means.
- ! Your second task is to decide which word fits into each level of Bloom's stairway in order to create rising levels of thinking or learning.



- ! Referring to the grid of thinking words that you have used previously, try to suggest where any of these words might fit into Bloom's stairway.
- ! Which of these skills have you used in this task?
- ! What conclusions can you draw from this exercise?
- ! The proper title of this stairway is 'Bloom's Taxonomy' and from now on we will use this expression. When he formed his taxonomy, which types of thinking was Bloom actually using?

## Metacognitive reflection exercise 4

Working in pairs, consider the following types of thinking:

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

Suggest what you think each of these types of thinking require you to do.

Which of these types of thinking do you think you have most used in this task?  
Explain why you have decided this.

In which other subjects have you used this type of thinking?  
Explain what, when and how you have used it.

Which life skills could this type of thinking prepare you for?

# Metacognitive reflection exercise 5

Cards are provided for these tasks - *see page 8*.

*A. For the first three tasks, the title cards are to be removed.*

1. Discuss some of the cards for meaning: eg, 'classify', 'suggest a hypothesis', 'evaluate information'.
2. Sort the cards into the following groups or categories:
  - ! Types of thinking that you know you have done.
  - ! Those that you have heard about but cannot remember doing.
  - ! Those which are new to you.
  - ! Feed back to the class about how and why you have grouped them this way
3. Turn over all of the cards. How many of them can you remember?

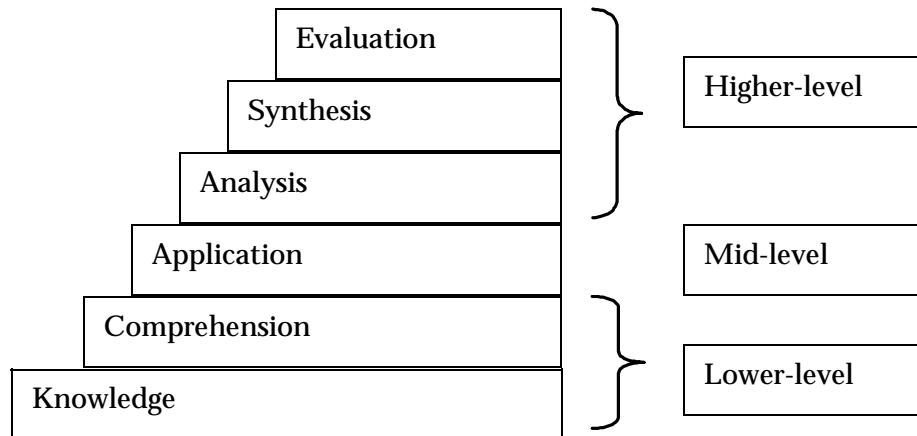
*B. Introduce the remaining cards.*

4. The cards in bold type are your new headings. Re-arrange all the cards into new categories under these headings.
5. Did you find any of the cards difficult to place? If so, identify them, and explain why you found them difficult.
6. Show a set of cards where you can easily describe and explain a connection between them.

Information – processing skills	Enquiry skills	Creative thinking skills	Evaluation skills	Reasoning skills
Classify	Compare and contrast	Test conclusions	Sequence	Ask relevant questions
Suggest hypotheses	Generate and extend ideas	Pose and define problems	Plan what to do and how to search	Make judgements and decisions informed by reasons or evidence
Develop criteria for judging the value of your work and ideas	Judge the value of what you read, hear and do	Analyse part/whole relationships	Give reasons for your opinions and actions	Use precise language to explain what you think
Have confidence in your judgements	Draw inferences and make deductions	Look for alternative innovative outcomes	Apply imagination	Evaluate information

# Notes for teachers

## a. Bloom's taxonomy



Bloom further classifies knowledge and comprehension as lower level thinking; application as mid-level thinking; and analysis, synthesis and evaluation as higher-level thinking, where analysis and synthesis are not necessarily stratified as they are presented here.

There is a 'loose' link with National Curriculum levels, where knowledge equates to Level 3; comprehension to Level 4; application to L5; analysis and synthesis to L6; and evaluation to L7.

## b. Classification of the National Curriculum thinking skills

### Information processing

- Locate and collect relevant information
- Sort and classify
- Sequence
- Compare and contrast
- Analyse part/whole relationships

### Give reasons for opinions and actions

- Draw inferences and make deductions
- Explain what you think
- Make informed judgements and decisions

### Enquiry

- Ask relevant questions
- Pose and define problems
- Plan what to do and how to research
- Predict outcomes and anticipate consequences
- Test conclusions and improve ideas

### Creative thinking

- Generate and extend ideas
- Suggest hypotheses
- Apply imagination
- Look for alternative outcomes

### Evaluation

- Evaluate information
- Judge the value of what you read, hear and do
- Develop criteria for judging the value of words or ideas

