Northern Ireland Curriculum

Thinking Skills and Personal Capabilities

Delivery Materials for CPD Units 1–6

Overview

This document contains all the activity sheets you will need during the delivery of the six training units for Thinking Skills and Personal Capabilities.

We recommend that you read the *Thinking Skills and Personal Capabilities Guidance Booklet* before attempting to deliver the training units. This will familiarise you with the content and help to ensure a smoother, more informed delivery.

For each unit there is a PowerPoint presentation, and each presentation includes a script (located in its Notes Pages) to help you deliver each unit's training. You will notice that sections of text in the guidance document are nearly identical to the script in the presentations' Notes Pages. This has been done purposely, to help embed this new information and also to assist you with recall as you deliver the PowerPoints.

You can view the Notes Pages by opening the file, clicking 'View' on the toolbar, and selecting 'Notes Pages'. You can print the Notes Pages by opening the file, clicking 'File' on the toolbar, selecting 'Print' and then selecting 'Notes Pages' from the 'Print What' dropdown menu.

Please note that these are only suggested scripts, and you should feel free to augment these to suit:

- your understanding of each topic;
- your particular delivery style; and
- your group's/school's particular needs.

Also please note that apart from delivering Unit 1 first, you do not need to follow the sequence below when delivering this set of training to your school's staff.

Overleaf is a summary of each unit's key messages and estimated delivery time.

Unit	Unit Title	Key Messages	Estimated Delivery Time	Resources Needed for Delivery
Unit 1	Rationale and Overview	TS & PC develop the tools, habits and dispositions for lifelong learning. The different strands overlap and interact with each other. Few of these skills and capabilities are new, but there are implications for pedagogy if they are to be developed and taught more explicitly.	1hr	• Flipcharts • Post-It notepads
Unit 2	Planning for Infusion	Infusion is the blending of teaching specific TS & PC into teaching subject content. The focus on skills should be narrow and specific to begin with. Pupils need to be given opportunities to demonstrate these skills (open-ended questions and tasks, thinking diagrams, and so on). Build in opportunities for observation and debriefing.	1hr 30min	• Flipchart • Unit 2 Activity Sheets 1–2
Unit 3	Expanding Your Pedagogy	Developing TS & PC may require a different set of teaching strategies. You need to have a clear focus to introduce TS & PC in manageable way. The posters represent a range of possible starting points. Ideas on the posters overlap. These ideas are not new; they reflect a lot of good practice.	2hrs	• Unit 3 Activity Sheet 1 and Resource Sheet 1 • TS & PC Posters • Red, amber and green coloured stickers

Unit	Unit Title	Key Messages	Estimated Delivery Time	Resources Needed for Delivery
Unit 4	Encouraging Creativity	Every subject has a part to play in developing mindsets or dispositions for creativity.	1hr	• Flipchart • Unit 4 Resource Sheet 1
Unit 5	Thinking Frames for Classroom Delivery *(Please note: if you are delivering the unit to KS 1 & 2 staff, remove slides 4, 7 and 11. If you are delivering to KS 3 staff, remove slides 3, 6 and 10.)*	Thinking frames and diagrams introduce pupils to the skillful practice of thinking and guide them through. They make thinking processes explicit to pupils and slow down their thinking. Thinking frames emphasise process – they are not new 'worksheets'. Thinking frames are a temporary aid.	1hr	• Flipchart • Unit 5 Activity Sheets 1–4 and Resource Sheets 1–3
Unit 6	Metacognition: Thinking About Thinking and Learning	Promoting metacognition helps pupils take more control over their learning. There are a range of strategies that promote metacognition. Planning plenary sessions is a good starting point for developing metacognition. Plenaries are part of the learning process.	1hr	• Flipchart • Resource Sheet 1

Unit 1: Rationale and Overview

No Activity/Resource Sheets Required

Unit 2:
Planning for Infusion

Activity Sheets 1–2

Unit 2: Planning for Infusion

Activity Sheet 1: Map from Memory Instructions

The Task: The page with your facilitator has important information on it.
Your task, as a group, is to be able to reproduce the information as accurately as possible.

The Rules: Only one person from your group is allowed to view the page at a time. Each person will only view the page for 45 seconds. Every member of the team (except the recorder) will get a chance to see it.

The Process:

1. Nominate a recorder. The recorder will stay at the table. Only the recorder is allowed to reproduce the information on the team's page.

2. Identify the order in which your group's members will go up to view the master page, from number one to number four.

3. When called, your group's number one goes up (with all the number ones from the other groups) and has 45 seconds to view the master page.

4. When number one comes back to your group, they have one minute to tell the rest of you and the recorder what is on the sheet.

5. Repeat this process until number four in your group has viewed the page and reported to your team.

6. Next, nominate one group member to go up for a final look at the page for 30 seconds.

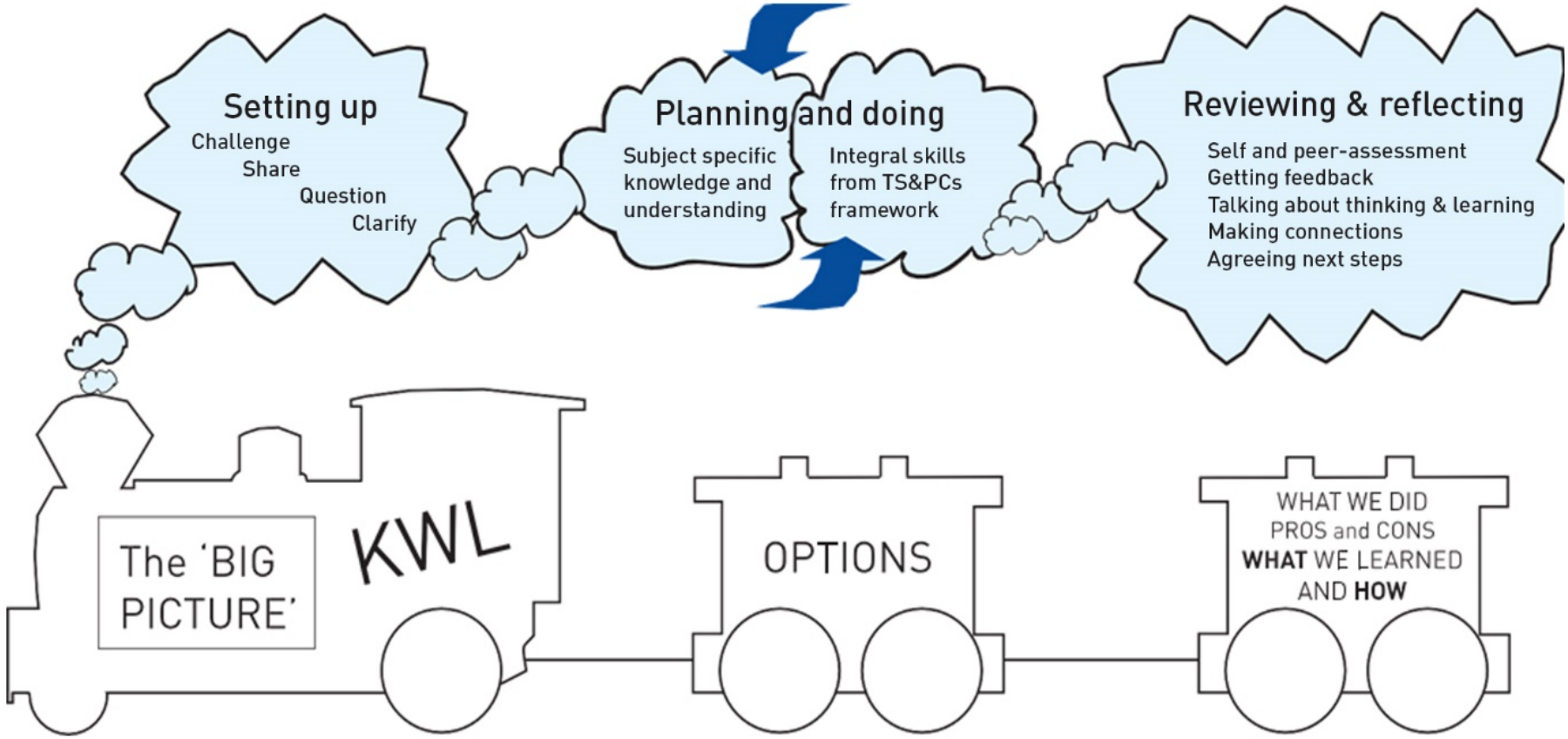
7. Finalise your group's page and exchange it with another group.

8. View the master page as a group.

9. Finally, on the other group's page, use stars to identify **two** strengths of their representation. With a circle, identify **one** aspect that could have been improved.

Unit 2: Planning for Infusion

Activity Sheet 2: Map from Memory Master Page



Unit 3: Expanding Your Pedagogy

Activity Sheet 1 and Resource Sheet 1

Unit 3: Expanding Your Pedagogy

Activity Sheet 1: Classroom Strategies for Enhancing Thinking Skills and Personal Capabilities

Briefing Sheet 1: Setting Open-Ended Challenges

Open-ended challenges do not have a single absolutely correct answer, or a single way of arriving at a correct answer. They involve the pupil in searching for and constructing meaning rather than trying to memorise a correct answer or have meaning constructed for them.

Open-ended challenges promote the development of TS & PC by encouraging pupils to respond creatively, offer reasoned decisions, solutions and possibilities, develop more autonomy, and value individual differences.

Getting Started ⟶ ***Moving on***

- Use strategies to get your pupils to **make** their own notes.
- Use tools and strategies to check understanding (for example *sequencing, sorting and classifying, comparing and contrasting, linking cause and effect, and so on).*
- Set up challenges to go beyond comprehension, for example:
  - *ask more 'why?' 'how? 'what if?' questions; or*
  - *ask them to 'present an argument against option A…'; or*
  - *ask them to 'explain what you think might happen if…'*
- Let pupils, individually and in groups, work through difficulties, prompting and scaffolding only as appropriate.

- Use powerful pedagogical strategies *(for example Odd One Out, Most Likely To, Mysteries, and Living Graphs).*
- Use problem-solving and decision-making scenarios *(for example historical decisions, environmental problems, inventing and designing, and so on).*
- Use an enquiry approach:
  - *create a need to know.*
  - *gather and organise information.*
  - *make sense of this information.*
  - *evaluate evidence.*
  - *draw conclusions.*
  - *express a personal response.*
  - *reflect on learning.*

Briefing Sheet 2: Making Thinking Important

If we want pupils to see thinking as important, we need to provide time and space for it to happen in the classroom. The classroom culture should promote thinking and creativity rather than discourage it.

Getting Started ⟶ ***Moving on***

Introducing thinking	Assessing thinking
• Make thinking a focus of learning *(for example, signpost opportunities for thinking questions and tasks, include TS & PC in Learning Intentions, and so on).* • Think aloud – be a model of thoughtfulness to your class. *Ask pupils to describe, analyse and evaluate their thinking.* • Teach thinking routines for different situations *(for example use questions for analysing visual stimuli such as 'What is going on here?' 'What is it that makes you think that?' and so on).* • Ensure your classroom supports thinking through its: ➢ displays – *key learning words, questioning prompts, 'quality boards' (annotating best practice), 'stuck boards' (strategies for getting unstuck), and so on;* ➢ layout – *supports active learning and group work; and* ➢ climate – *values all ideas and opinions, prompts and scaffolds learning, uses 'wrong' answers to further learning, encourages risk-taking for learning, and so on.*	• Make thinking a focus of assessment *(for example, build thinking skills into assessment tasks).* • Use teacher observation, develop rubrics, and get pupils to use learning logs, thinking diaries, and so on. • Explicitly assess written and oral work for the quality of the thinking *(for example, get pupils to use the steps in the thinking diagram to develop a written argument).* • Get pupils to use/create their own thinking frames/diagrams in new situations. • Involve pupils in peer and self-assessment of TS & PC in your subject context. • Use decision-making or problem scenarios/challenges as assessment tools.

Briefing Sheet 3: Effective Questioning

Questions and questioning techniques influence pupils' achievement, attitudes and thinking skills. The level of the question tends to obtain a similar level of answer. Achievement can improve if high levels of questions are accompanied by wait time, redirection, and probing techniques.

Getting Started ⟶ ***Moving on***

• Plan a few higher order questions that go beyond checking knowledge and begin to *look for reasons, seek examples and alternatives, elicit emotions and encourage reflection.* • Use Bloom's taxonomy to help plan higher order questions. • Explain to pupils the purpose of 'new' questioning strategies. • Build in 'thinking time' or wait time for pupils to respond. • Encourage collaborative responses to question *(for example think-pair-share).* • Try a 'no hands' day *(for example get a selection of responses and discuss the differences in them).* • Prompt pupils to encourage extended responses. • Use games/stimulus to encourage pupil questions. • Invite pupil questions at start of class *(for example 'What questions do we need to ask about the…').*	• Self/peer audit. Record all the questions you/colleagues ask in a lesson and analyse them according to purpose and response. • Agree a departmental questioning strategy. Observe, monitor and evaluate the strategy in action. • Plan rich questions and write them into units of work. • Use pupil questions as a focus for discussion, enquiry, action, and so on. • Encourage pupils to identify different types of questions *(for example 'fat' and 'thin' questions)* at the end of a topic.

Briefing Sheet 4: Making Thinking Explicit

Imagine learning to dance when the dancers around you are all invisible. We learn much by watching, imitating and adapting what we see.

Thinking is invisible. It needs to be brought out into the open and talked about.

Getting Started ⟶ ***Moving on***

- Introduce a common language to talk about thinking and learning.
- Model the steps in a thinking process.
- Use a word bank to identify kinds of thinking.
- Use questions (thinking frames) to help pupils work through the steps of a particular type of thinking.
- Introduce thinking diagrams to support the questions. Consider:
  - *filling in one during a lesson (modelling);* or
  - *giving pupils a partially completed one to finish.*

- Plan and use **plenary activities** to develop pupils' metacognition. Help pupils:
  - take stock of what they have learned;
  - consider how they have learned and the learning strategies they used;
  - develop a language for talking about thinking and learning;
  - set new targets for learning; and
  - apply the results to further learning.
- Take other opportunities to probe thinking *(for example misconceptions, conflicting solutions, unusual ideas, errors, and so on).*
- Have pupils create their own thinking diagrams and present their approach to the class.

Briefing Sheet 5: Enabling Collaborative Learning

Collaborative learning has both a cognitive and a social function. As A.L. Costa points out, 'Together, individuals generate and discuss ideas, eliciting thinking that surpasses individual effort. Together and privately, they express different perspectives, agree and disagree, point out and resolve discrepancies, and weigh alternatives. Because people grow via this process, collegiality is a crucial climate factor.'

(Costa, A.L. '*Developing Minds: A Resource Book for Teaching Thinking'.* Association for Supervision and Curriculum Development).

Getting Started ⟶ ***Moving on***

• Decide what topics/themes/activities best lend themselves to collaborative work. • Teach the skills pupils need to succeed in groups. • Create tasks that require collaboration (for example roles, reaching consensus, and so on). • Set strict time limits for group tasks. • Introduce roles that relate to tasks (for example recorder, facilitator, reporter, resource officer and so on). • Use pairs or small friendship groups to begin. This will foster trust and security. • Give groups a structure for action planning (for example who will be doing what and when). • Troubleshoot problems that arise in groups (for example freeloading, dominance, and so on).	• Observe and listen to one group's discussion and use for whole-class feedback, especially in relation to: ➢ **exploratory talk** (how ideas were generated, supported, challenged, built on, agreed, and so on); and ➢ **interpersonal skills** (turn taking, feedback, support, and so on). • Introduce roles that relate to different perspectives and different types of thinking (for example, circle of viewpoints, Six Thinking Hats, and so on). • Mix up groups so they will be less prone to consensus. • Have groups agree their own ways of working. • Have groups self-assess their performance. • Ask individuals to assess their contribution to the group. • Enable peer coaching and mentoring (for example, pupil with pupil and teacher with teacher).

Briefing Sheet 6: Promoting Independent Learning

Effective pupils regulate their own learning by observing what they are able to do, evaluating this in relation to agreed or self-set goals and planning what to do next. This requires the pupils to develop a variety of planning, organisational, social, and metacognitive skills.

Getting Started ⟶ ***Moving on***

• Help pupils: – set a realistic target for a piece of work; – develop a step-by-step plan for the work; – carry out a piece of work and review the plan if necessary; and – evaluate both their product and their process in order to identify strengths and weaknesses by, for example by: ➢ annotating a notebook; or ➢ using a self-assessment rubric. • Give quality feedback to help pupils set further goals. • Give pupils a variety of strategies and tactics to help them manage their time, thoughts, and actions *(for example diaries, lists, mind maps, glossaries and so on).* • Help pupils recognise the 'highs and lows' of learning.	• Set expectations to encourage forward planning and goal setting. • Have pupils use learning logs or 'thinking books' to record their goals, plans and progress, to express their thinking, and make it explicit to themselves. The following questions/prompts are helpful: – The questions I still have are…. – I wonder how? Why? – I think/feel… – The problem is…my solution is… – I now think… – I need to know… • Promote and use a range of personal learning strategies *(for example flow charts, annotations, concept maps, summary diagrams, study buddies, and so on).* • Help pupils to develop strategies to persevere, deal with negative feedback and maintain confidence.

Briefing Sheet 7: Making Connections

Enabling pupils to connect or apply the concepts and skills learned in one classroom to other topics, subjects and contexts is one of the primary goals of education. However, this does not happen automatically and pupils generally do not make these connections.

Opportunities for transfer need to be planned and made more explicit for the pupil.

Getting Started ⟶ ***Moving on***

- Use strategies to help connect new and previous learning *(for example a KWL list).*
- Introduce a thinking skill *(for example, developing an argument or weighing up options in a personal or real-life context before applying to a curriculum context).*
- Make opportunities for transfer explicit *(for example, set it as a learning intention).*
- Create transfer opportunities soon after an initial learning opportunity.
- Begin to draw a distinction between 'near' transfer to similar learning contexts and 'far' transfer to more novel contexts.

- Ensure that attempts are consistently made to make connections between knowledge and skills in different/novel/ unseen contexts.
- Use strategies like analogies and thinking diagrams to bridge original and new learning contexts.
- Make sure that transfer is made both across the curriculum and to everyday contexts.
- Reward pupils' attempts at transfer.
- Use regular plenaries to encourage pupils to think about transfer opportunities.

Unit 3: Expanding Your Pedagogy

Resource Sheet 1: Poster Parade Summary of Posters

Poster Parade

Taught or Caught! The three speech bubbles represent a range of views about the importance of teaching skills in the curriculum. The purpose is for teachers to share their ideas and beliefs about learning.
Setting Open-ended Challenges This encourages teachers to think about their current practice and how they provide opportunities for learners to be actively engaged in constructing their own meaning.
Making Thinking Important This poster identifies a wide range of practical activities, strategies and behaviours that teachers can use to help improve the quality of thinking in the classroom and make it important.
Making Thinking Explicit This poster gets teachers to think critically about their own practice and gives suggestions that can be modelled.
Effective Questioning This gets teachers to think about the similarities between their own questioning approaches and the 'vicious circle'. It then encourages them to make suggestions for more effective questioning strategies.
Enabling Collaborative Learning This introduces the notion that group work goes way beyond having pupils sit together in groups. It introduces the types of skills the learners should be developing and demonstrating if they are engaged in meaningful group work activities.
Promoting Independent Learning This poster encourages teachers to appraise their own performance. Hopefully they see value in such questions, the importance of self-reflection and appraisal and begin to think about how to develop these dispositions and habits in their learners.
Making Connections This poster gives teachers a few strategies to think about how they can connect learning through and beyond the curriculum. It also challenges teachers to think about other possible opportunities for transfer.

Unit 4:
Encouraging Creativity

Resource Sheet 1

Unit 4: Effective Questioning

Resource Sheet 1: ICEDIP Mindsets

INSPIRATION *Deeply engrossed, fearless, free* Researching and generating a large number of ideas. Being uninhibited, spontaneous, experimental and intuitive. If most of the ideas are workable, you did not take enough risks!	**CLARIFICATION** *Clear-minded, unhurried, questioning* Clarifying the purpose and keeping a sense of direction. Focusing on how the finished work will look. Clarification is a process, not an event! It is done at frequent intervals.
EVALUATION *Self-critical, positive, willing to learn* Considering how the work can be improved. Building on strengths, identifying weaknesses and viewing them as opportunities for improvement. Not seeing criticism as a threat.	**DISTILLATION** *Strategic, reflective* Deciding what ideas to work on. Selecting best ideas or combining them into even better ones. Thinking about where the ideas can take you.
INCUBATION *Unhurried, trusting, flexible* Leaving the work alone for a while, pondering it occasionally (keeping it on the surface of your mind), giving the subconscious time to work on it.	**PERSPIRATION** *Enthusiastic, positive, persistent* Generating a number of drafts, separated with clarification and evaluation phases. Creative people often do not accept a first draft, but go over and over a piece until it is to their liking.

You can find this by seaching for ICEDIP at www.geoffpetty.com

Unit 5:
Thinking Frames for Classroom Delivery

Activity Sheets 1–4 and Resource Sheets 1–3

Unit 5: Thinking Frames for Classroom Delivery

Activity Sheet 1: Decision-Making Frame KS 1 & 2

Key Stage 1 & 2 Decision-Making Frame

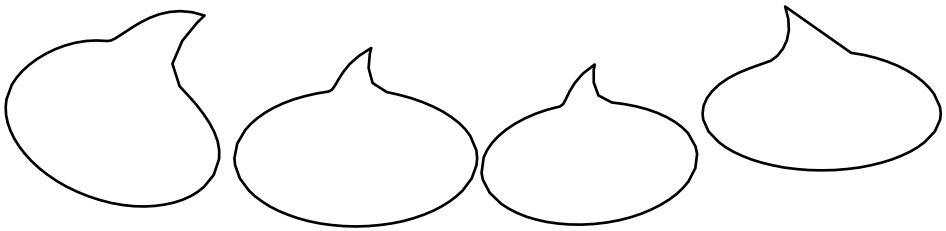
- What are some things I can do?
- What will happen if I do these things (pros and cons)?
- What are good things to do (weighing up)?

Unit 5: Thinking Frames for Classroom Delivery

Activity Sheet 2: Decision-Making Diagram KS 1 & 2

CHOICES

What can we do?



CHOOSE ONE OPTION

PROS	CONS

Is this a good choice? .....

Give a reason for your answer:.....

Unit 5: Thinking Frames for Classroom Delivery

Activity Sheet 3: Decision-Making Frame KS 3

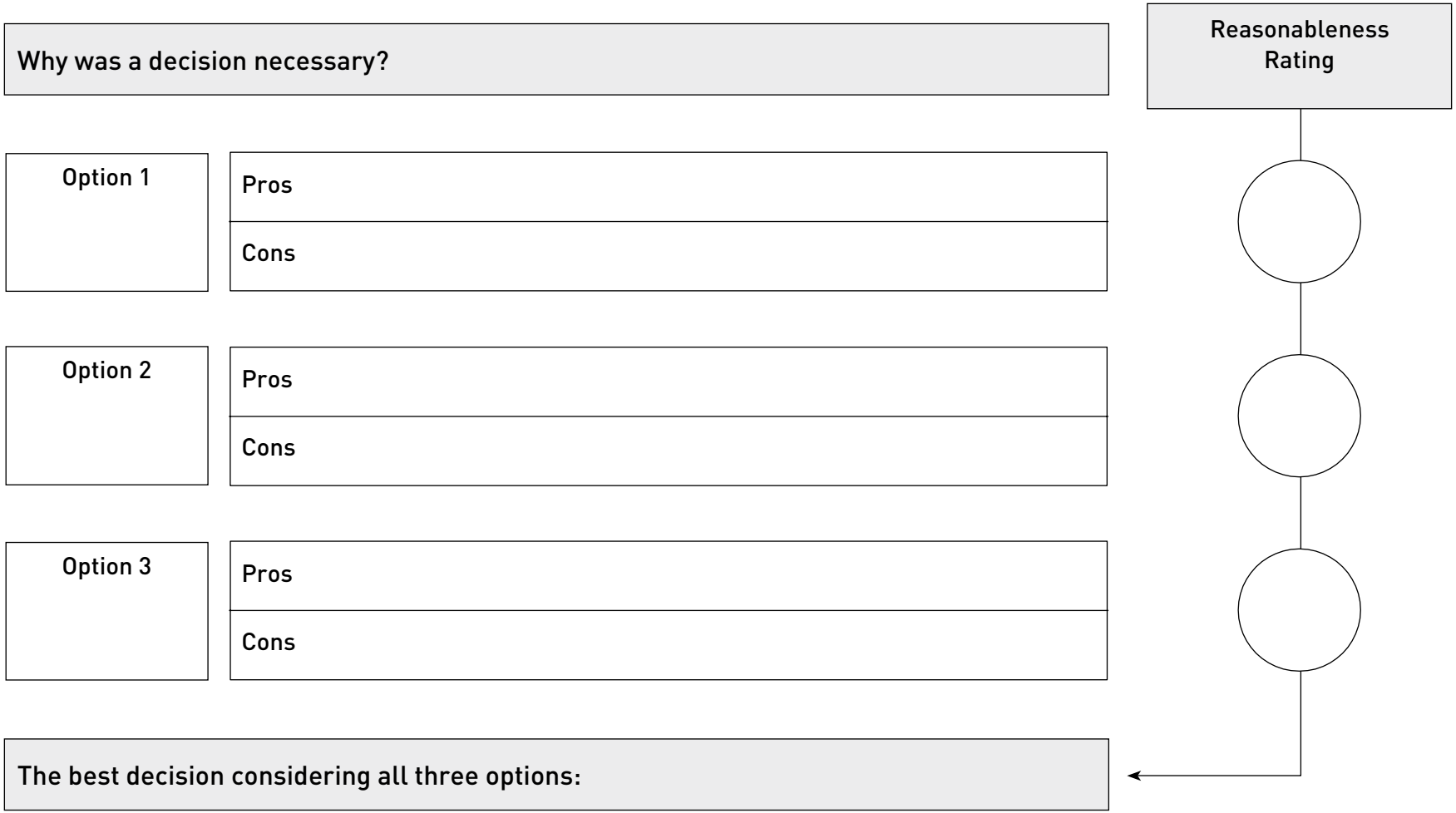
Key Stage 3 Decision-Making Frame

- What makes this decision necessary?
- What are my **options**?
- What are the likely **consequences** of each option?
- How important are the consequences?
- What is the best option, having considered the consequences?

Unit 5: Thinking Frames for Classroom Delivery

Activity Sheet 4: Decision-Making Diagram KS 3

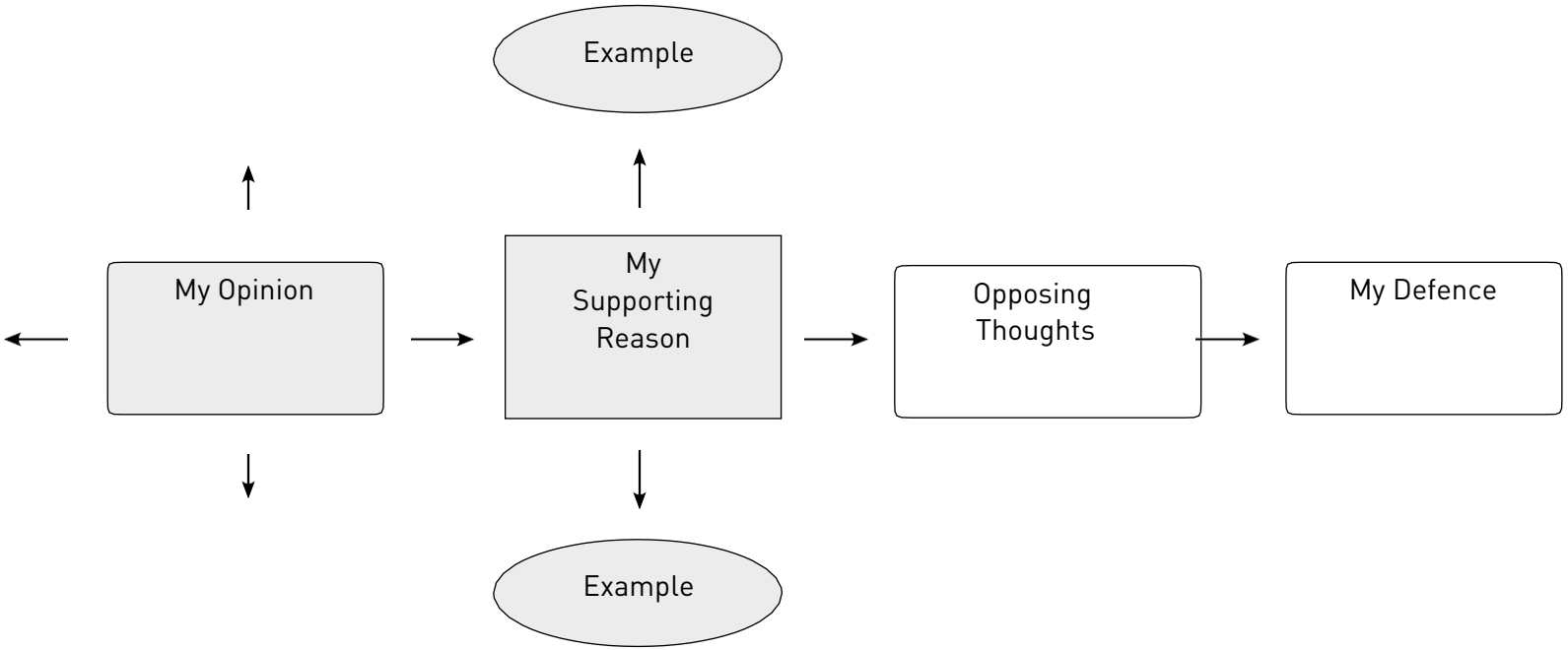
Decision-Making Diagram



Unit 5: Making Thinking Explicit: Thinking Frames for Classroom Use

Resource Sheet 1: Thinking Diagram for Supporting an Argument

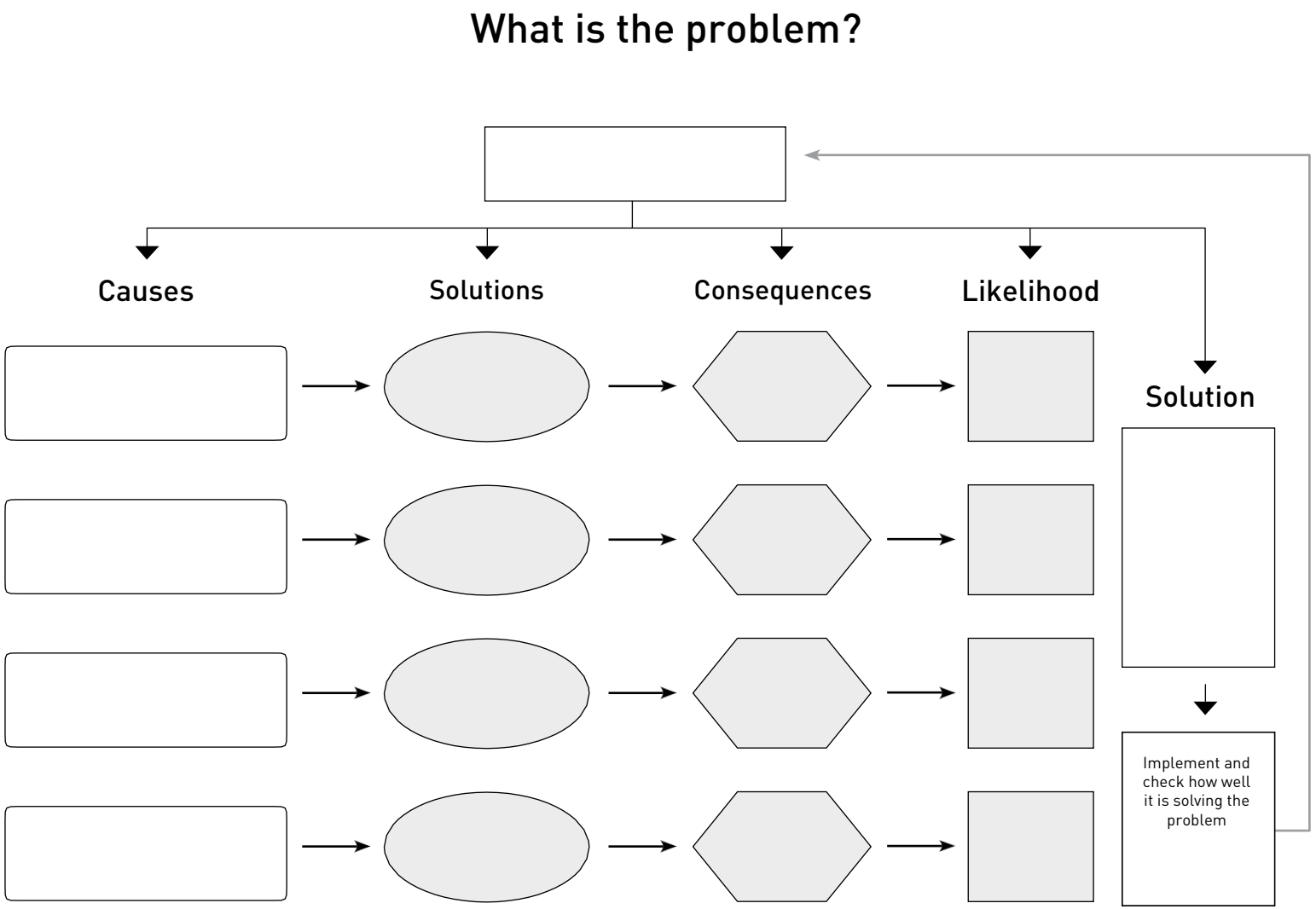
Supporting an Argument



Adapted from Inspiration Software Version 7.5

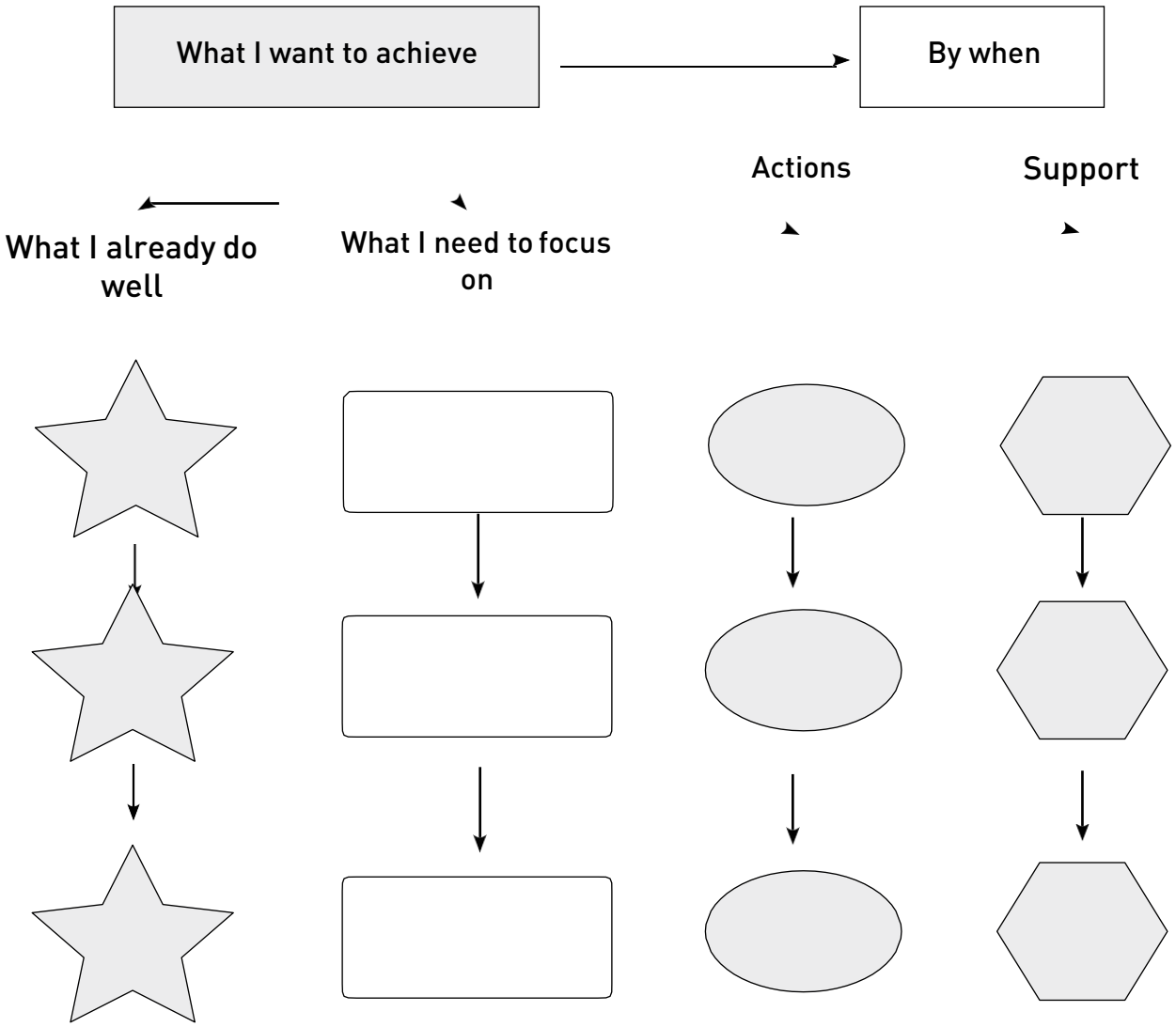
Unit 5: Making Thinking Explicit: Thinking Frames for Classroom Use

Resource Sheet 2: Thinking Diagram for Problem-Solving



Unit 5: Making Thinking Explicit: Thinking Frames for Classroom Use

Resource Sheet 3: Thinking Diagram for Goal Setting



Unit 6: Metacognition: Thinking About Thinking and Learning

Resource Sheet 1

Unit 6: Metacognition: Thinking About Thinking and Learning

Resource Sheet 1: Possible Answers

Question: *What do you consider to be the main purpose of a plenary?*

Possible Purposes of Plenary	Examples of Whole-Class Activities	Suggested Questions/ Prompts for Pupils
Review lesson objectives • Draw together the learning. • Help pupils consolidate what has been covered and learned.	**3-2-1** (for example, three things we have learned, two skills I have used, one big question we still have). **Think-pair-share** our ideas and the skills we needed to use. **Summarise** For example, summarise in five sentences, then in five words, or present a graphic summary in flow chart or mind map. **Highlight** Write up findings on board or poster view, review and prioritise.	What did you find out? What have you learned as a result? Why is this important? How did you do that? What conclusions can you draw?

Possible Purposes of Plenary	Examples of Whole-Class Activities	Suggested Questions/Prompts for Pupils
Be diagnostic • Provide an opportunity for the teacher to assess individual and collective learning.	**Peer- and self-assessment** (for example traffic lights, two stars and a wish). **Hot seating** One group answers questions from another. A third group rates the questions and their response. **Spot checking** Individual/group performance.	What did you find easy/difficult? What really made you think? What did you do when things got difficult? How did your strategies compare with those of other groups? What were you good at? What could you be better at?
Recognise achievement • Identify and value achievements in learning.	**Wish list** Pupils agree what success in a particular skill/activity would look like.	This group was particularly good at… What I heard/saw from this group was… Nominate someone from your group who best demonstrated…
Move learning on **Take learning further** • Promote transfer of TS & PC.	**Exploring** **Personal/Collective goal setting** **Setting challenges**	What are the implications/ consequences of our learning? Are there any parallel issues/ exceptions you can think of? What would you do differently next time? What can we learn from our mistakes? Where else might you use this skill?

Question: *What are the characteristics of an effective plenary?*

- They occur at a strategic moment in the teaching sequence, not just at the end.
- They bring the class together as a whole group.
- They summarise and take stock of the learning so far, relating back to the Learning Intentions and the bigger picture.
- They consolidate and extend the learning.
- They provide opportunities for pupils to talk and reflect on what has been learned and how it has been learned.
- They help identify the next steps in learning.

Question: *What are the main challenges to a plenary being effective?*
What are some solutions to these challenges?

Challenges/threats	Suggested solutions
Not enough time for a plenary. Class time runs out or is overtaken by setting homework and other activities.	Do not plan a plenary in every class. Plan a plenary as part of the final class in a sequence. Build it in as a distinct element. Use a pupil as a time keeper and draw the class together well before the end of the lesson. Have mini-plenaries at other opportune times in the lesson or with a smaller group.
Pupils don't consider the plenary important. It is not seen as an integral part of the lesson.	Signal the importance of the plenary at the beginning of the lesson. Tell the pupils that they will be involved in/take charge of the plenary.
It becomes routine and dull.	Change the routine. Use a range of whole-class strategies to engage attention. Try novel approaches.

Challenges/threats	Suggested solutions
The novelty wears off. It fades into normal business – getting back into seats, collecting materials and books, merely restating the objectives.	Involve more pupils in running or contributing to the plenary. Identify individuals and tell them in advance that it is their turn to manage the plenary.
The teacher does the thinking and talking instead of the pupils.	Ask 'what have we learned?' Ask pupils to write up the new learning and display. Ask them to devise 'golden rules' for others attempting the same task. Use word banks to help pupils build up a metalanguage to help them talk about thinking and learning.
Becomes too focused on the content (the what) and not sufficiently on the skills and capabilities (the how).	View the plenary as a means of delivering progression in knowledge and skills. Make sure it draws out the progress made and extends and transfers thinking. Ask pupils to consider the consequences or implications of new learning. Ask how the skills developed might be applied in other contexts. Get them to illustrate with examples from their own experience.