



**Ambition
Institute**

Early Career Training Programme

Clinic 4: Thinking hard Participant Workbook (Primary)

**KEEP
GETTING
BETTER**

Name:

Session date:

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Pre-clinic tasks

The following tasks are to be completed before you attend Clinic 4. This should take no longer than 30 minutes to complete.

In Clinic 4, you will read and analyse 3-4 scenarios that consider the following teaching problem across a range of contexts:

How can teachers support all pupils to extend their thinking?

The scenarios will exemplify the four module principles below, demonstrating how teachers can support all pupils to extend their thinking.

Module principle	Description
Plan a knowledge-rich curriculum	In order to think critically, pupils need secure background knowledge. By specifying content meticulously in our curriculum, we can focus on building detailed mental models.
Sequence content so it logically builds	The curriculum best supports pupils to acquire well-connected mental models when content within it is logically sequenced. Sequence content so that it builds according to the logic of the subject matter. Develop understanding by linking new content to what pupils already know and can do.
Use questioning to deepen understanding	Pupils' understanding is strengthened when they are encouraged to explain, discuss and reflect on their thinking. Ask purposeful, open questions that support pupils to deepen and articulate their thinking in lessons.
Scaffold for success	The design of the task should enable all pupils to access it and experience challenge. Where pupils need scaffolds to successfully complete the task, their use should be carefully modelled at an appropriate point. Teachers should plan to remove scaffolding when pupils are ready, so that they experience independent learning.

These module principles are relevant to all teachers and can be applied across all contexts, regardless of phase, subject or setting.

The following two tasks will help you to familiarise yourself with the module principles before you attend the clinic. During the clinic, you will build on this prior knowledge by exploring the module principles in greater depth with the support of your facilitator, before applying these to your own practice.

Task 1

- > Read the scenario below.
- > Answer the questions, using the module principle as a guide.

Mr Ayres is teaching his year 6 class about the circulatory system. So far, pupils have revisited the idea that the body needs a 'transport system' and learnt about the function of the heart.

Next lesson, Mr Ayres is going to teach pupils about the function of blood vessels. As he prepares, Mr Ayres thinks about what pupils have already learned, so he can build on their understanding in a logical way, making clear links between lessons. He considers what essential knowledge pupils will need to make sense of how blood vessels work and how they fit into the circulatory system.

He revisits the learning objective for this lesson and identifies the key knowledge pupils will need. To support his explanation and for pupils build a secure understanding, he plans to introduce the key vocabulary, such as artery and vein, alongside a labelled diagram. He decides to display the key vocabulary on the board throughout the lesson, so pupils can refer to it.

Mr Ayres also considers how he can plan questions that deepen pupils' thinking, prompting them to explain their reasoning and make connections between key concepts, for example by comparing the role of arteries and veins. He plans to share the following question and statements in turn:

Check for understanding Are the following statements true or false? Explain why. 'Blood vessels only carry blood to the heart.' 'The blood in most arteries is rich in oxygen.' 'Blood can be red or blue.' Sentence starter "I think this is true/false because..."	Key vocabulary Blood vessel Artery Vein Oxygen Oxygenated Deoxygenated
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Mr Ayres plans to show one statement at a time, giving pupils time to think and respond by writing 'T' or 'F' on their mini whiteboards. This allows him to check understanding across the class and address any misconceptions.

Once pupils have the correct answer, Mr Ayres will model how to explain their reasoning using the sentence starter and key vocabulary on the board. Pupils will then discuss their answer with a partner before sharing with the whole class. This approach gives everyone the chance to share their understanding and practise using the key vocabulary.

When asking pupils to share their responses with the class, he will encourage pupils to use the key vocabulary and sentence starter that are visible on the board. Where pupils need further support to explain their answer, he goes back to the diagram he showed earlier in the lesson, prompting pupils to use it in as evidence in their explanations or to help clarify any misunderstanding. To stretch thinking further, he plans to use follow-up questions, such as:

- > "Can you build on that answer?"
- > "Can you link this idea to what we learned about the heart in the last lesson?"

By planning these follow-up questions, Mr Ayres aims to deepen understanding and encourage all pupils to make meaningful connections in their learning.

After reading the scenario, reflect on the following questions and respond, using the table below:

Module Principle	Question(s)	Response
Plan a knowledge-rich curriculum	What is the key knowledge that pupils need to learn?	
Sequence content so it logically builds	Is this knowledge sequenced in a logical way? How?	
Use questioning to deepen understanding	What questions have been asked by the teacher to deepen pupils' thinking?	
Scaffold for success	What scaffolds are used to enable all pupils to access it?	

Task 2

- > Take a moment to reflect on the module principles for this clinic.
- > Consider a recent conversation that you have led with others. This might include conversations with parents, colleagues, TAs, SENCOs, DSL or external agencies.
- > Complete the table, reflecting on your experience.

Example: This is completed example for the first two module principles to support your thinking.

Module principle	Do you feel that you applied this module principle?	If yes , how did this module principle support your practice?	If no , what might you do next time to use this module principle?
Plan a knowledge-rich curriculum	Yes	Having studied the curriculum plan, I knew the key knowledge for the lessons in this unit. This meant that I could make sure pupils regularly retrieved this knowledge as part of Do Now tasks, to help it become more secure.	

Sequence content so it logically builds	No		I planned the sequence of content so that new material would build on previous learning, but I didn't explain this to pupils as I thought it would already be clear. Next time I could begin the lesson by explaining how the new learning will build on what pupils have studied previously, and how they can use what they have learned before to help them in the upcoming lesson.
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Module principle	Do you feel that you applied this module principle? (Y/N)	If yes , how did this module principle support your practice?	If no , what might you do next time to use this module principle?
Plan a knowledge-rich curriculum			
Sequence content so it logically builds			
Use questioning to deepen understanding			
Scaffold for success			

Teaching problem

How can teachers support all pupils to extend their thinking?

Paired discussion

Reflect on your experiences of supporting pupils to think hard.

Questions:

1. Why is it important for pupils to think hard?
2. How can we support pupils to think hard through talk tasks?
3. How can we scaffold challenging tasks so they are accessible for all?

Notes:

What are module principles?

Module principles are the components of an approach that can be applied across all subjects, phases or settings. They serve as a guide for what good practice is likely to look like.

Module principles for extending pupils' thinking and supporting them to think hard.

Module principle	Description
Plan a knowledge-rich curriculum	In order to think critically, pupils need secure background knowledge. By specifying content meticulously in our curriculum, we can focus on building detailed mental models.
Sequence content so it logically builds	The curriculum best supports pupils to acquire well-connected mental models when content within it is logically sequenced. Sequence content so that it builds according to the logic of the subject matter. Develop understanding by linking new content to what pupils already know and can do.
Use questioning to deepen understanding	Pupils' understanding is strengthened when they are encouraged to explain, discuss and reflect on their thinking. Ask purposeful, open questions that support pupils to deepen and articulate their thinking in lessons.
Scaffold for success	The design of the task should enable all pupils to access it and experience challenge. Where pupils need scaffolds to successfully complete the task, their use should be carefully modelled at an appropriate point. Teachers should plan to remove scaffolding when pupils are ready, so that they experience independent learning.

I do

Scenario

Miss Gibson's year 4 class have been reading 'Charlotte's Web' by E.B. White as their class text. In previous lessons, pupils have explored characterisation and plot, developing their understanding of key vocabulary such as mood, atmosphere and effect. In this lesson, pupils will be analysing the penultimate chapter, where one of the characters (Wilbur) says a sad, final farewell to Charlotte the spider.

When planning, Miss Gibson has thought carefully about the knowledge pupils will need to access and analyse the language used in the text. She has considered how this lesson builds logically on what they have already learned and how it prepares them for future learning. Ultimately, she wants pupils to apply this understanding in their own narrative writing during Literacy lessons, using language choices to create a specific mood and atmosphere.

She begins the lesson by recapping the key vocabulary, which is written on a working wall, and prompts pupils to refer to it in their discussions. After a close read of the chapter, Miss Gibson asks the following question to pupils:

"Talk to your partner. How does this chapter make you feel, why?"

Miss Gibson circulates and summarises a few responses such as sad, tense, relieved and bittersweet, with reasons why. She then explains that they are going to look more closely at how the author has created this mood through their language choices.

She shares the following questions on the board, explaining that they will work through each question in turn, using think-pair-share. She reads each question aloud before pupils discuss it:

- > Which words or phrases make you feel this way? Why do you think the author chose to use this word?
- > How does this final moment connect to what we already know about Charlotte as a character?
- > When Wilbur saves the egg sac, how does the mood change? Which words show this change?
- > How does the atmosphere in this chapter compare to earlier chapters of the book?

After this, she gathers the class back together to zoom in on a specific example. She shows a single line from the text on the board:

"Good-bye!" she whispered.

After this, she poses a question to the whole class.

How might this sentence feel different if the author had used the word 'said' instead of 'whispered'? By planning this careful sequence of questions, Miss Gibson supports pupils to move beyond their initial emotional response to the text and begin to explain how an author's language choices create mood, building the knowledge and vocabulary they will need for their own narrative writing.

Task: Take notes while the facilitator models how the module principles appear in the first scenario.

Module Principle	Response
Plan a knowledge-rich curriculum	
Sequence content so it logically builds	
Use questioning to deepen understanding	
Scaffold for success	
Other notes:	

We do

There are two 'We do' scenarios. Read and analyse each scenario with the following questions in mind. Use the table below the scenarios to write your response.

1. Where can you see evidence of the module principles in the scenario?
2. What impact do the module principles have on the teacher's actions and practice?

We do – Scenario 1

Mr Ayres is teaching his year 6 class about the circulatory system. So far, pupils have revisited the idea that the body needs a 'transport system' and learnt about the function of the heart.

Next lesson, Mr Ayres is going to teach pupils about the function of blood vessels. As he prepares, Mr Ayres thinks about what pupils have already learned, so he can build on their understanding in a logical way, making clear links between lessons. He considers what essential knowledge pupils will need to make sense of how blood vessels work and how they fit into the circulatory system.

He revisits the learning objective for this lesson and identifies the key knowledge pupils will need. To support his explanation and for pupils build a secure understanding, he plans to introduce the key vocabulary, such as artery and vein, alongside a labelled diagram. He decides to display the key vocabulary on the board throughout the lesson, so pupils can refer to it.

Mr Ayres also considers how he can plan questions that deepen pupils' thinking, prompting them to explain their reasoning and make connections between key concepts, for example by comparing the role of arteries and veins. He plans to share the following question and statements in turn:

Check for understanding Are the following statements true or false? Explain why. 'Blood vessels only carry blood to the heart.' 'The blood in most arteries is rich in oxygen.' 'Blood can be red or blue.' Sentence starter "I think this is true/false because..."	Key vocabulary Blood vessel Artery Vein Oxygen Oxygenated Deoxygenated
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Mr Ayres plans to show one statement at a time, giving pupils time to think and respond by writing 'T' or 'F' on their mini whiteboards. This allows him to check understanding across the class and address any misconceptions.

Once pupils have the correct answer, Mr Ayres will model how to explain their reasoning using the sentence starter and key vocabulary on the board. Pupils will then discuss their answer with a partner before sharing with the whole class. This approach gives everyone the chance to share their understanding and practise using the key vocabulary.

When asking pupils to share their responses with the class, he will encourage pupils to use the key vocabulary and sentence starter that are visible on the board. Where pupils need further support to explain their answer, he goes back to the diagram he showed earlier in the lesson, prompting pupils to use it in as evidence in their explanations or to help clarify any misunderstanding. To stretch thinking further, he plans to use follow-up questions, such as:

"Can you build on that answer?"

"Can you link this idea to what we learned about the heart in the last lesson?"

By planning these follow-up questions, Mr Ayres aims to deepen understanding and encourage all pupils to make meaningful connections in their learning.

We do – Scenario 2

Mrs Patel has been teaching her year 2 class about managing emotions in PSHE lessons. Across the unit, pupils have built up a bank of key vocabulary, starting with familiar emotions such as happy, sad and angry before developing more nuanced language such as frustrated, disappointed and nervous. Pupils have also been learning how to recognise and respond to their own emotions, exploring strategies such as taking time and space to calm down or talking to a trusted adult.

For the next lesson, Mrs Patel has thought carefully about what pupils already know and how she can help them apply what they have learned to a new, more complex activity. She starts the lesson with a whole-class discussion in a circle, asking questions to revisit prior learning, such as:

"When we feel sad, what might we do to make ourselves feel better?"

"When we feel furious, how might we calm down?"

Mrs Patel then shows pupils an emotions card, with a face showing an angry expression. She models to the class:

"This is Sam. He has accidentally kicked his football over the fence and is feeling frustrated. I can see that he is frowning and his eyebrows and mouth are turned downwards. What might Sam do to make himself feel better?"

She then invites pupils to contribute and summarises:

"Yes, great. We've got lots of ideas here. Sam could take some time and space to calm down, he might take a deep breath and count to ten or talk to a friend about how he is feeling."

Mrs Patel explains that in today's lesson, pupils will be thinking about how others might be feeling and what they could do to make themselves feel better. She reads the learning objective and the following questions from the board:

- > How might he/she feel?
- > What could they do to make themselves feel better?

Mrs Patel reminds pupils that they will have time to think independently first, then discuss in pairs, before sharing their ideas with the class. She then shows a series of emotion cards in turn and reads the scenarios aloud, after each one she pauses for pupils to discuss with a partner before sharing with the whole class.

At the end of the activity, Mrs Patel poses the following challenge for pupils to discuss in pairs, this time without an emotions card.

"It is Aisha's first day at a new school. How might she be feeling?"

Then follows this with,

"What might you do to help Aisha?"

"Why do you think it is important to help others when they are feeling sad/nervous/excited?"

She then asks pupils to share their responses with the whole class, encouraging them to build on each other's answers. By building carefully on pupils' prior knowledge and own experiences, Mrs Patel supports pupils to apply their understanding, articulate their thinking and make meaningful connections.

Analysis		
Module Principle	We do scenario 1	We do scenario 2
Plan a knowledge-rich curriculum		
Sequence content so it logically builds		
Use questioning to deepen understanding		
Scaffold for success		
Other notes:		

Task: share in pairs.

Notes:

Task: share with the group.

Reflect and record: Reflect on the group discussion and record your final thoughts on the 'we do' scenarios.

Notes:

Option A: Non-example

Read and analyse

Mrs Patel has been teaching her year 2 class about managing emotions in PSHE lessons. Across the unit, pupils have built up a bank of key vocabulary, starting with familiar emotions such as happy, sad and angry before developing more nuanced language such as frustrated, disappointed and nervous. Pupils have also been learning how to recognise and respond to their own emotions, exploring strategies such as taking time and space to calm down or talking to a trusted adult.

Mrs Patel starts the lesson by showing pupils an emotion card, with a face showing an angry expression. She models to the class:

"This is Sam. He has accidentally kicked his football over the fence and is feeling frustrated. I can see that he is frowning and his eyebrows and mouth are turned downwards. I think he might need to take a deep breath and count to ten or talk to a friend about how he is feeling."

Mrs Patel explains that in today's lesson, pupils will be thinking about how others might be feeling and what they could do to make themselves feel better. She reads the learning objective and the following questions from the board:

- > How might he/she feel?
- > What could they do to make themselves feel better?

Mrs Patel reminds pupils that they will have time to think independently first, then discuss in pairs, before sharing their ideas with the class. She then shows a series of emotion cards in turn and reads the scenarios aloud, after each one she pauses for pupils to discuss with a partner before sharing with the whole class.

When she asks pupils to share their responses with the whole class, she notices that they use quite simple vocabulary from earlier lessons and that their suggestions are similar across the scenarios, such as 'talk to a friend'. Mrs Patel is unsure why pupils are not drawing on the fuller range of vocabulary and strategies from the unit and encourages pupils to build on each other's answers in the final scenario: "It is Aisha's first day at a new school. How might she feel? What could she do to make herself feel better?"

Answer the following questions:

1. Which of the module principles are **not** present in this scenario? (there may be more than one)

- > Plan a knowledge-rich curriculum
- > Sequence content so it logically builds
- > Use questioning to deepen understanding
- > Scaffold for success

Provide your reasoning for the missing module principle(s):

2. What impact does the missing module principle have on the scenario?

Option B: Practice/Planning task**Task:**

1. Identify an upcoming lesson that you are going to teach.
2. Identify the content you want pupils to think hard about.
3. Plan a sequence of questions that logically builds from consolidation to stretching pupils thinking.
4. Consider the scaffolds that pupils might need to access the task and answer the questions.

Module Principle	Prompt questions:
Plan a knowledge-rich curriculum	Have you specified exactly what it is that you want pupils to learn?
Sequence content so it logically builds	Does the content build in a way that is logical for the subject matter? Have you built on pupils' prior knowledge?
Use questioning to deepen understanding	Do the questions get pupils to think about the most important ideas or concepts in the lesson? Do the questions encourage pupils to extend their thinking? Do the questions build in complexity?
Scaffold for success	What do you think are likely barriers to pupils accessing the task? How will you use scaffolding to support all pupils to access the task? How might the scaffolds you use be faded, or removed, over time?

Plan

Module Principle	Prompt questions:
Plan a knowledge-rich curriculum	Have they specified exactly what it is that they want pupils to learn?
Sequence content so it logically builds	Does the content build in a way that is logical for the subject matter? Have they built on prior knowledge?
Use questioning to deepen understanding	Will the questions get the children to think about what you want them to? Do the questions encourage pupils to extend their thinking? Do the questions build in complexity?
Scaffold for success	What do they think are likely barriers to pupils accessing the task? How have they use scaffolding to support all pupils to access the task? How have they considered how the scaffolding might be removed over time?

Share your planning task with a partner, ask them to provide feedback on the prompt questions.

Feedback

Reflection

- > As you were planning, which of the module principles felt most natural to you? Which principles do you think you are already using to support pupils to think hard?
- > Which of the module principles do you think you are not yet using, or do you find more challenging?
- > What are your next steps in response to this clinic? What or who will support you to achieve these?

Notes:

Option C: I Do 2

Miss Jenkins is a reception teacher. Her class have been excitedly spotting signs of spring. Miss Jenkins would like to use this interest to develop the children's recent learning on spatial reasoning and comparison, giving them the opportunity to apply this in a new, meaningful context.

She has prepared a gardening patch in the outdoor area, where the children will choose from a range of tools to plant some seeds and bulbs. They will need to consider which tool is appropriate for the size of hole needed and use the comparison vocabulary they have been working on (bigger, smaller, taller, shorter etc.) to explain their choices.

As part of this activity, Miss Jenkins plans to work with a small groups of children to support their communication and language development. She has prepared some questions in advance to use as a scaffold, with the aim of supporting pupils to extend their thinking and begin to offer explanations for why things might happen. She knows that an important part of this is giving the children time to consider her questions and comments, rather than jumping in to offer answers or solutions.

Miss Jenkins also wants to remain responsive to the children in the moment, building on what they say and do through sustained shared thinking.

At the beginning of the activity, Miss Jenkins reminds the children that they will need to follow the rules of conversation they have practised throughout the year so far, such as taking turns when speaking, so that everyone has the time to think and contribute. Miss Jenkins models the process of selecting a tool and explaining her choice using comparison vocabulary before inviting the children to make their own choices and begin digging.

Miss Jenkins: Ok, so what do we need to do next?

Child A: We need a hole in the soil!

Miss Jenkins: That's right. We need to dig a hole for our seeds and bulbs.

Child B: I'm using a spoon.

Miss Jenkins: I wonder what kind of hole that will make.

Child B: A little hole.

Child C: I want to dig a big hole to have the tallest flower!

Miss Jenkins: Yes, we need different sized holes for the seeds and bulbs.

Child B: A spoon is better for seeds.

Miss Jenkins: I wonder why a spoon is better, what makes you think that?

Child B: The seeds are smaller!

Miss Jenkins: That's right, the seeds are smaller than the bulbs.

Child A: My fork isn't working. *[Places fork down and folds arms.]*

Miss Jenkins: How frustrating that your fork is not working. Your fork has loosened the soil, but it hasn't made a hole. I wonder what else we could use. *[She waits.]*

Child A: I'll use this one *[picks up a trowel]*.

Miss Jenkins: That's a good idea. You're using a trowel, which is bigger than the spoon. I wonder whether your hole will be better suited to the seeds or the bulbs...What do you think?

Child A: It's a bigger hole for the bigger bulbs.

Child C: I need a big spoon too.

Miss Jenkins: That's right. You need the trowel to dig a hole for your big bulb.

Task: Take notes while the facilitator models how the module principles appear in this scenario.

Module Principle	Response
Plan a knowledge-rich curriculum	
Sequence content so it logically builds	
Use questioning to deepen understanding	
Scaffold for success	

Close

Reflection

1. Of the module principles, which do you already use to help you to support pupils to think hard?
2. Which of the module principles will you use more in order to support you to:
 - a. Support pupils to think hard through talk tasks?
 - b. Scaffold challenging tasks so they are accessible for all?

References

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