Early Career Teachers Programme

Teacher Conference 1 Workbook

KEEP GETTING BETTER

Welcome to Ambition's Early Career Teachers programme

'Every teacher needs to improve, not because they are not good enough, but because they can be even better.' Wiliam (2012)

The Early Career Framework

The Early Career Framework (ECF) underpins an entitlement to a fully-funded, two-year package of structured training and support for early career teachers linked to the best available research evidence.

Key Ideas from the Early Career Framework are:

Teachers are the foundation of the education system – there are no great schools without great teachers.

Teachers deserve high quality support throughout their careers, particularly in those first years of teaching when the learning curve is steepest.

Induction is the bridge between initial teacher training and a career in teaching.

Your entitlements

> Attend high quality professional development, conferences and clinics.

> A dedicated mentor to support your practice and guide you through the programme.

> A continued additional 10% timetable reduction for first year of induction and a newly funded 5% off-timetable in second year, providing you protected time for your professional development.
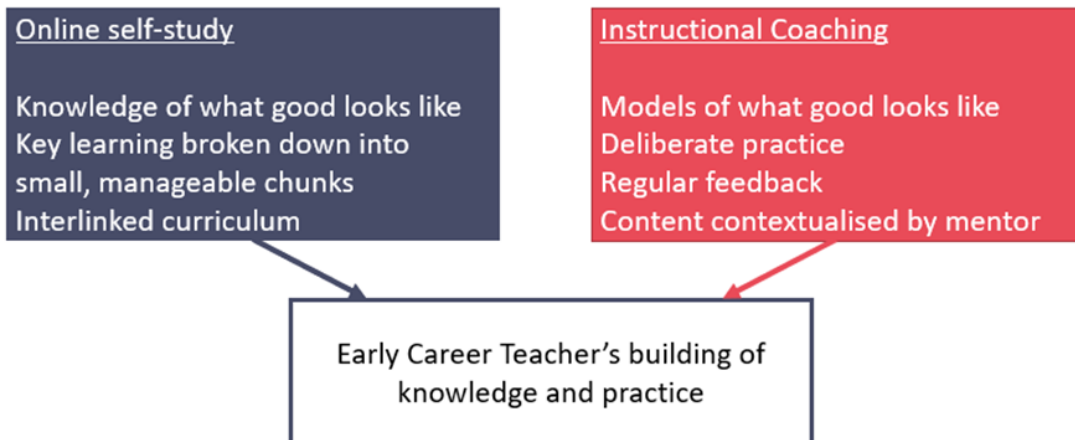
Ambition's Approach
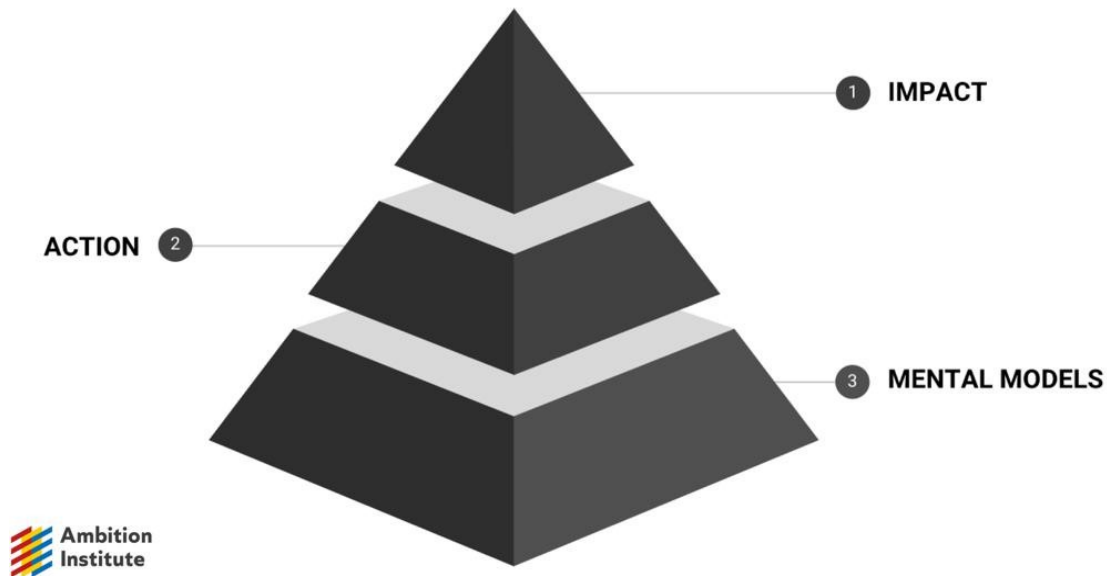
Programme Principles

> Regular, bite-sized learning
> Examples of classroom practice
> Practice makes permanent
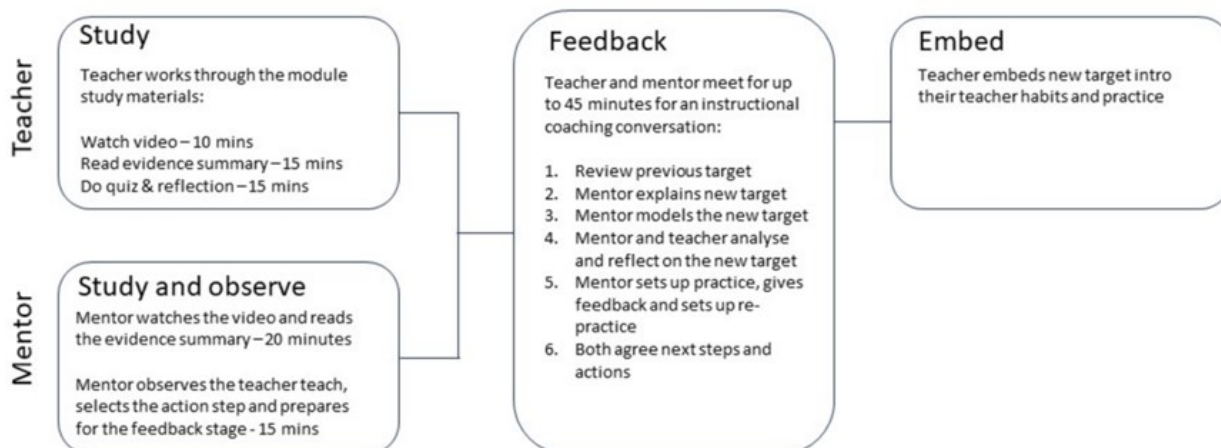> Familiar routines

Making the most of it:
> Bend it to meet your needs
> Go with it

Additional Notes:

Self-Study and Coaching

Online self-study

Knowledge of what good looks like
Key learning broken down into
small, manageable chunks
Interlinked curriculum

Instructional Coaching

Models of what good looks like
Deliberate practice
Regular feedback
Content contextualised by mentor

Early Career Teacher's building of
knowledge and practice

Your weekly pattern:

Teacher

Study

Teacher works through the module
study materials:

Watch video – 10 mins
Read evidence summary – 15 mins
Do quiz & reflection – 15 mins

Mentor

Study and observe

Mentor watches the video and reads
the evidence summary – 20 minutes

Mentor observes the teacher teach,
selects the action step and prepares
for the feedback stage - 15 mins

Feedback

Teacher and mentor meet for up
to 45 minutes for an instructional
coaching conversation:

1. Review previous target
2. Mentor explains new target
3. Mentor models the new target
4. Mentor and teacher analyse
   and reflect on the new target
5. Mentor sets up practice, gives
   feedback and sets up re-
   practice
6. Both agree next steps and
   actions

Embed

Teacher embeds new target intro
their teacher habits and practice

Notes:

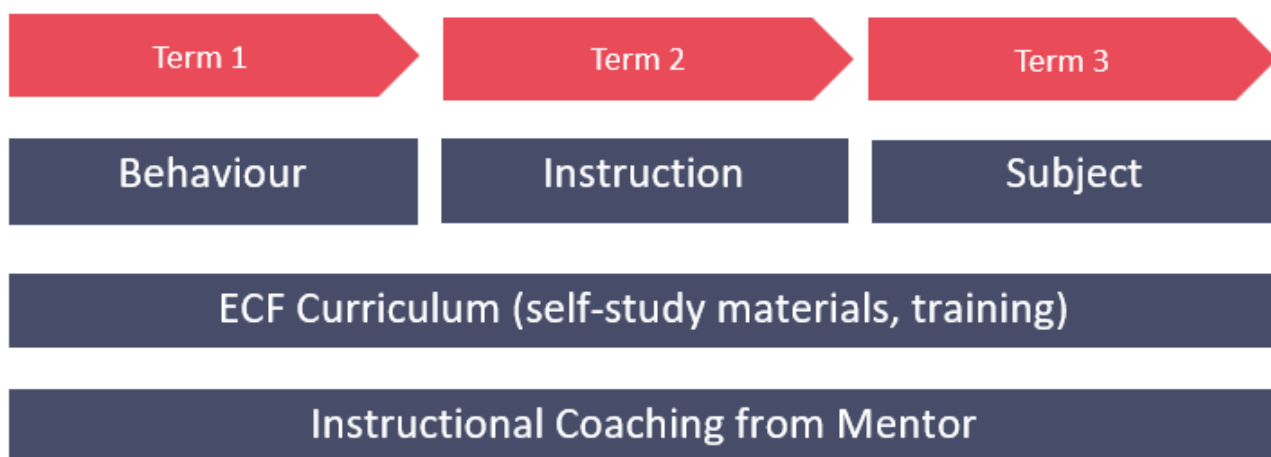## A reminder of the programme journey

Your self-study and coaching will be based around three strands

Behaviour – includes high expectations, behaviour management and routines, including classroom climate and classroom management as well as developing positive attitudes to learning.

Instruction – by instruction, we mean the combination of teaching and learning strategies based on how we teach and how pupils learn in our classrooms.

Subject – in subject, we explore implications for planning and curriculum.

These underpin the modules for self-study and actions steps that you will be set during your weekly coaching.

Term 1	Term 2	Term 3
Behaviour	Instruction	Subject
ECF Curriculum (self-study materials, training)		
Instructional Coaching from Mentor		

Notes:

Reflecting on Induction:

What are you most looking forward to? (content you will be learning about, training, coaching)

What do you need to do next? (e.g. speak to my mentor, start self-study)

The power of effective teaching

All disadvantaged pupils
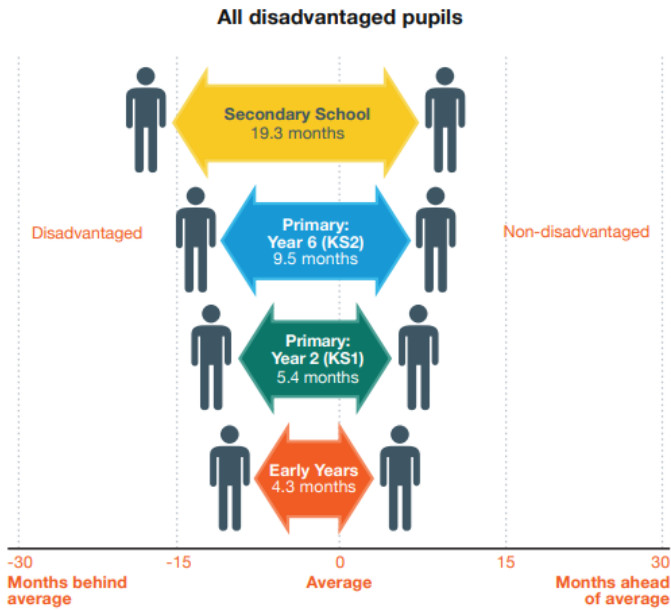
Discussion

> What do you notice about the trend between disadvantaged and non-disadvantaged pupils as they go through school?

> Why might this data important for teachers to consider?

Notes:

Motivation and knowing what 'drives' you are an important part of both staying on track with your coaching and study as well as considering the wider scope of what it means for you to be a teacher.

Reflect on the following:

> Where does your inspiration for being a teacher come from?

> What drives your motivation to teach?

High expectations

Notes:

The Science of Learning

Learning vs. Performance

Learning Learning cannot be seen, it is an internal process that goes on inside our heads. We cannot measure learning directly.	**Performance** Immediate behaviour that can be observed and measured. We can make judgements and inferences about learning based on performance (e.g. assessments). Performance can however, vary on a range of factors.

Review – True or False?

1. Learning is an internal process that we cannot measure directly.

2. Performance is always a good indicator of learning.

3. If a pupil answers correctly in a lesson, that means that they have learnt the concept.

4. Forgetting is a part of learning.

A simple model of memory
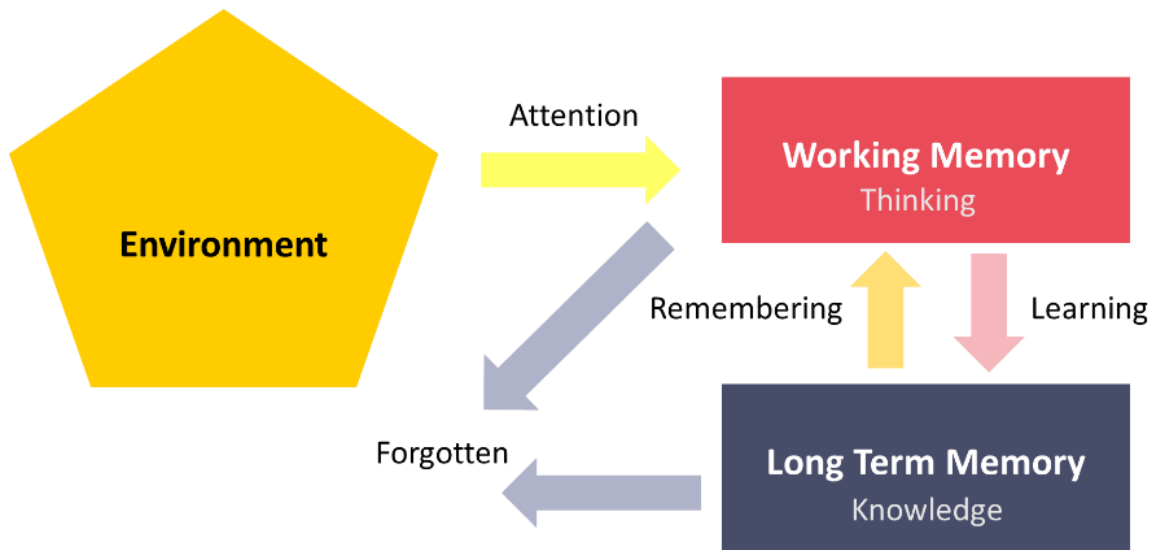
Willingham 2009

Notes:

![Reading icon] **Reading**

Read the extract from *Why Don't Students Like School?*

Let's begin with a very simple model of the mind. The figure shows the environment on the left, full of things to see and hear, problems to be solved, and so on. On the right is one component of your mind that scientists call working memory; it holds the stuff that you're thinking about and is the part of your mind where you are aware of what is around you: the sight of a shaft of light falling on a dusty table, the sound of a dog barking in the distance, and so forth. Of course, you can also be aware of things that are not currently in the environment; for example, you can recall the sound of your mother's voice, even if she's not in the room. Long-term memory is the vast storehouse in which you maintain your factual knowledge of the world: that ladybugs have spots, that triangles are closed figures with three sides, that your 3-year-old surprised you yesterday by mentioning kumquats, and so on. All of the information in long-term memory resides outside of awareness. It lies quietly until it is needed, and then enters working memory, and so becomes conscious. Thinking occurs when you combine information (from the environment and from long-term memory) in new ways. That combination happens in working memory.

Willingham, D. T. (2009). *Why Don't Students Like School? American Educator*, 5. (4-13), p.7

Environment	
Working Memory	
Long Term Memory	

Working memory and cognitive overload
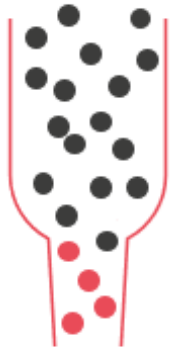
'Chunks' of information that we can attend to. Research tells us that we can hold between 3-4 chunks of information at a time.
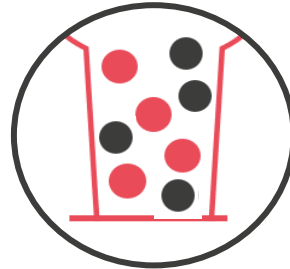
When we are required to think about too many chunks of information, our brain becomes overloaded, we call this **cognitive overload**.

Notes:

What prior knowledge would pupils need before understanding this text?

Annotate the text below and discuss.

This is an article about the dodo,
a bird that is now extinct.

An artist's impression of the
dodo from 300 years ago.

The Way
of the Dodo

The dodo was first sighted around 1600 on an island in the Indian Ocean. It was extinct by 1680. Since then the phrase 'dead as a dodo' has been used to describe something which is lifeless or has disappeared from the world completely. Because of its rapid disappearance, a number of myths developed about the dodo, for example that it was a fat, silly creature that brought its fate upon itself.

But what is the **truth** about the dodo?
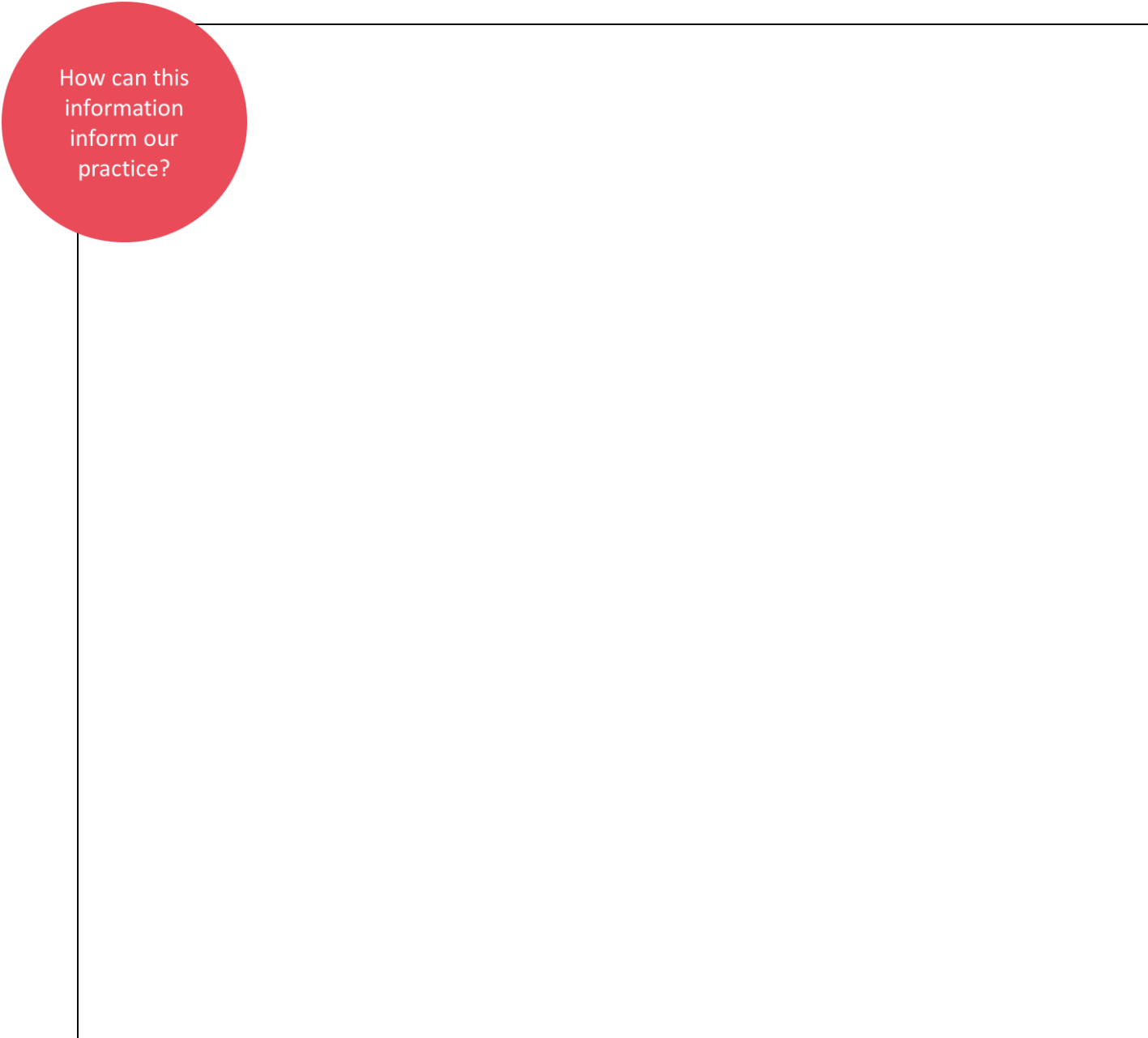
For thousands of years the island of Mauritius was a paradise. It was spat out of the ocean floor by an underwater volcano 8 million years ago. With warm sun, plentiful food and no predators to speak of, the isolated island became a haven for a variety of unusual species, including reptiles and flightless birds.

Then, in 1598, humans descended on this paradise, accompanied by their own animals – dogs, goats, cats (and a fair number of rats!). Curious and unafraid, the animals of Mauritius offered themselves up for slaughter and, within just a few decades, much of the island's unique wildlife had been wiped out forever.

KS2 SATs English Reading Paper (2016)

Implications for working memory

Limited Space	3-4 'chunks' of information can be held in working memory for a short amount of time.
Keep it simple	The more complex the information that we try to think about the more likely it is that we will overload the limited capacity of working memory.
Cognitive overload	If we try to think about too much at one time, it can lead to incomplete recall, failure to follow instructions and place-keeping errors.
Prior knowledge helps	We can use our prior knowledge to help avoid cognitive overload.

How can this information inform our practice?

Long term memory

'Learning is a persistent change in long term memory' Mccrea (2018)

Model of memory representation in long-term memory store

NOVICE — Before Learning — New Concept — Understanding — Mastery — EXPERT

Teaching example:

Novice | Intermediate | Expert
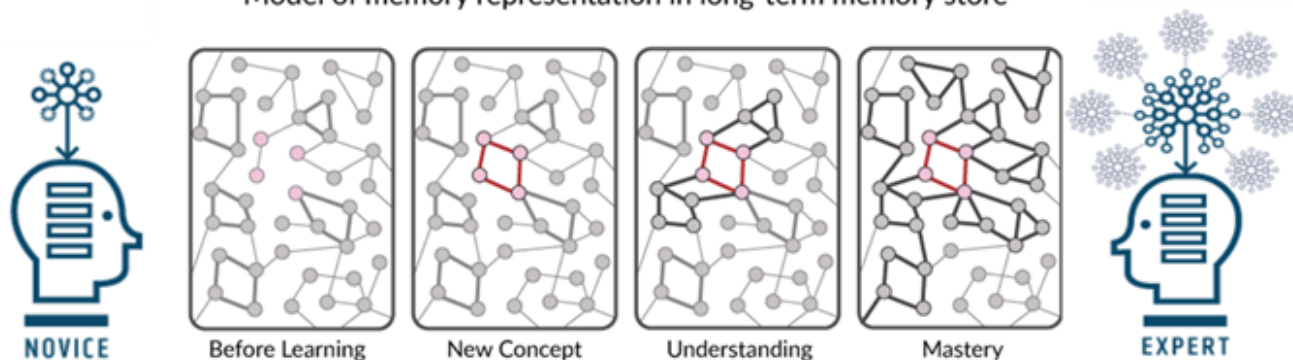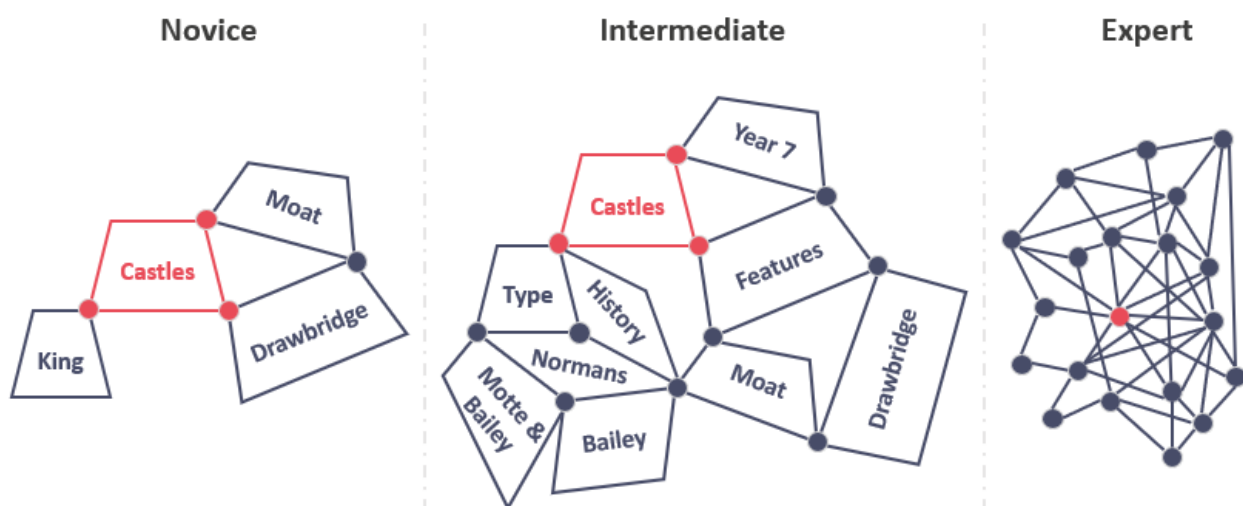
Task

Can you think of an example of a specific schema for your subject/year group?
> Draw or write out what this may look like for a unit that you teach
> What strategies would you use to support development of this schema?

Pupil
Novice
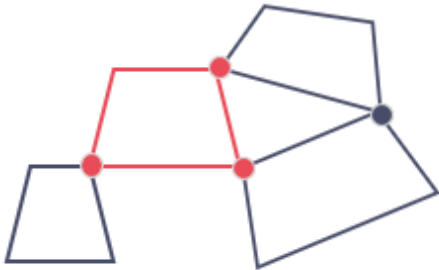
Teacher
Intermediate
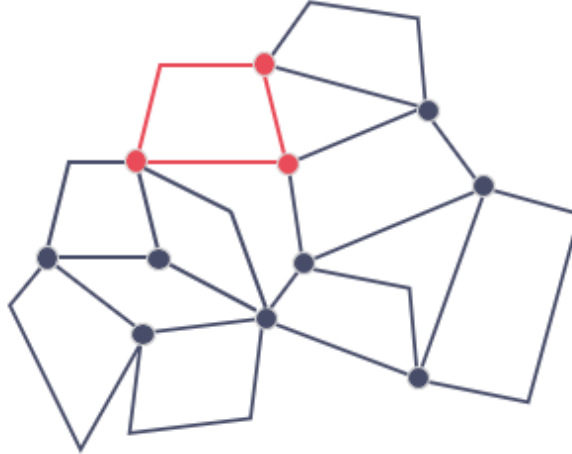
Expert
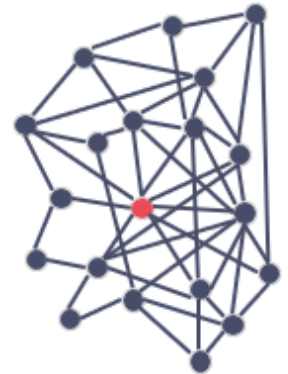
Notes:

Implications for long-term memory

Organisation	Schemas help us to organise information based on what it means, and to understand new situations. They develop as we learn new information.
Novices vs. Experts	Novices benefit from more structure, scaffolding and explicit teaching. Scaffolding should be reduced over time.
Overcoming limitations of working memory	Our long-term memory can help our working memory and avoid cognitive overload.
Misconceptions	Existing schemas (our mental models) allow us to think relatively easily about things, but these can be based on misconceptions or stereotypes.

Forgetting
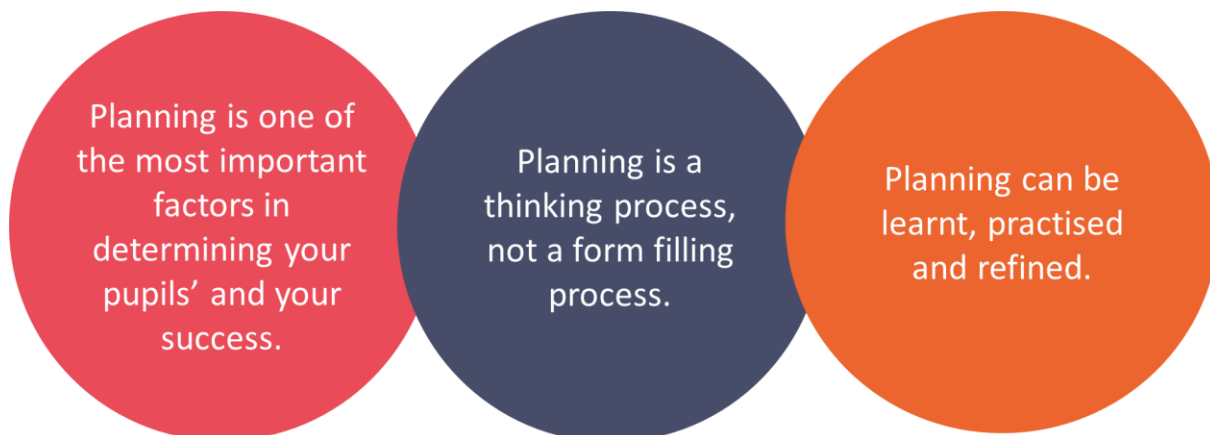
Ebbinghaus 'Forgetting curve' (1885)
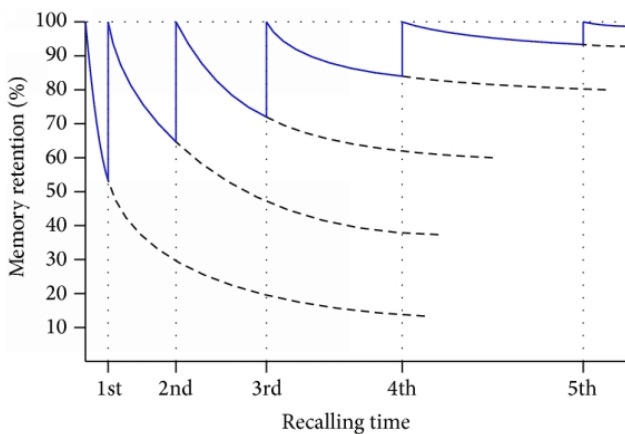
Key Idea:

Forgetting is an important part of learning. After learning something, our memory of it will decline over time unless we retrieve or recall it. Therefore, it takes time to strengthen long-term memories.

Task

> What implications might 'the forgetting curve' have on the way we teach?
Consider how we can retrieve and recall memory over time in our classrooms.

Habits of Planning

Planning is one of the most important factors in determining your pupils' and your success.

Planning is a thinking process, not a form filling process.

Planning can be learnt, practised and refined.

Reading

Read the extract from Peps Mccrea on **Backwards Design**

> *'If you don't know where you're going, you'll probably end up someplace else.'*
> **Laurence Peter**

I have worked with many teachers who have become frustrated by the planning habits they're developed over time. In some cases, this is because they have fallen unawares into one or both of the following classic traps.

1. Activity-focused planning starts by trying to find a good activity, and then reverse engineering the lesson intentions to match the likely outcomes of the activity. Over time, this approach can end up becoming an exercise in *keeping students busy*.
2. Coverage-focused planning begins with a set of lesson intentions that have been crafted by someone else (e.g. a colleague or a textbook), rather than taking the time to construct aims around your students needs. Over time, teaching can become an exercise in *getting through the curriculum*.

It *is* possible to experience some short-term gains with both of these approaches. They offer easy and compelling solutions to the problem of planning. However, they are economically flawed, and over time, are likely to stifle professional creativity and generate poor levels of return on student learning.

Starting with the end in mind

In his recent meta-analysis, John Hattie argues that one the best ways to optimise learning is to use backwards design. In the context of lean lesson planning this means two things.

1. Start your planning with the question: w*hat do I want my students to have learnt by the end of the lesson?*
2. Spending more time on this activity than you think you should.

Doug Lemov observed that effective teachers spend more time *identifying outcomes* and less time *selecting activities* than their colleagues. The clearer you are about where you want to go, the better chance you have of getting there. This logic may seem obvious, but in practice, it is frequently prone to abuse.

Backwards design is about striving for *excessive clarity* about what you want your students to be able to do as they progress through the lesson. This involves mapping out, breaking down and thinking hard about how the various parts of the learning trajectory hang together.

> **Mccrea, Peps.** *Lean Lesson Planning: a practical approach to doing less and achieving more in the classroom* (2016)

> What are the key messages in this piece?

Backwards Planning

At the **end**!

Where do we start?

You should always be considering the ultimate end goal.

It's all too easy to get stuck 'firefighting' and focussing on 'next immediate thing'.

> What do I want pupils to understand, know and be able to do?

> How can I find the knowledge that needs to be taught? What does the end of unit task look like?

> Which learning activities will lead to the desired impact?

Introducing the habits of planning

Habit 1: Break down your goal into granular knowledge by analysing your assessment and wider curriculum goals for the unit.

Build on prior knowledge by sequencing from what your pupils may already know, through acquisition of knowledge and towards application.

Habit 3: Make the learning accessible by identifying how you will overcome barriers you know your pupils face and misconceptions that are likely to arise.

Build lasting learning by planning for multiple retrieval and practice opportunities to prepare pupils to apply key knowledge.

Habit 5: Increase complexity by ensuring the key knowledge is cumulative in its difficulty and that pupils apply their knowledge across a variety of contexts.

> What do you feel your current strengths are when planning?

> What would you like to improve on?

Break down your goal into granular knowledge by analysing your assessment and wider curriculum goals for the unit.

Teaching Phase/Stage	Suggestions for useful curriculum documents
EYFS	New development matters, New ELGs, What happens, when?, Exemplification materials.
Primary	National Curriculum, School's LTP overview/curriculum, End of unit scheme e.g. maths mastery, white rose. Y2 and Y6 exemplification materials.
Secondary	National Curriculum, GCSE/A-Level requirements, End of unit scheme e.g. maths mastery or assessment.

Suggested tools
1. Identify wider knowledge and curriculum goals
2. Complete or source a unit assessment/task as an 'ideal' pupil and break down the knowledge and skills

Notes

1. Identify wider knowledge

2. Source or complete an end of unit example, break down the knowledge and skills.

Use of pronouns 'he', 'one'

Describes setting

Use of language to advance action.

Use of Adverbs, 'suddenly' 'then'

Spelling is mostly correct

Integrates dialogue

Joined handwriting is legible

Range of punctuation used

Task

> Where will you find the wider curriculum goals for a unit that you are teaching?

> What might your end of unit example look like for your subject/phase?

(e.g. a demonstration, a story, an investigation, a performance)

Build on prior knowledge by sequencing from what your pupils may already know, through acquisition of knowledge and towards application.

Read the extract from Didau and Rose, 'What every teacher needs to know about psychology'.

Reading: Recap Prior knowledge

Prior knowledge is the most important difference between students. Students' minds are not a blank slate; when children arrive at school they already know lots of stuff. Even though students in the same lesson might all go through essentially the same learning process, their background knowledge, experiences, interests and motivations can be wildly different. Obviously enough, this prior knowledge affects how students acquire new knowledge and skills; what is already known interacts with the materials being learned. …perhaps the single most important implication arising from working memory research is the importance of prior knowledge when learning new material.

Whilst attempts to expand the capacity of working memory directly through training programmes have proved disappointing, one sure-fire way we can build up the complexity of material children can hold in mind is by ensuring they have the background knowledge to help them process the new material we want them to learn. Knowledge doesn't just sit in long-term memory waiting to be called

upon – it appears to actively help to increase working memory capacity within a domain or type of activity. This is a marvellously positive message for educators. Whilst we may be able to very little to directly improve working memory in a generic way, we can help children to reason in complex and creative ways when they possess lots of background knowledge. The more you know, the more complex and interesting the connection you can make. By ensuring children have a confident grasp of the inflexible knowledge which forms the foundations of new learning, we provide them with a greater 'mental workspace' which they can use for more complex analytical and evaluative tasks.

Didau and Rose, *What every teacher needs to know about psychology* (2016)

> According to Didau and Rose (2016), why is prior knowledge important?
> How do these ideas relate to what you know about progression in your subject?

Task 1

Select **one** of the following scenarios, one you are most comfortable with or that best fits your teaching context. List the prior knowledge needed.

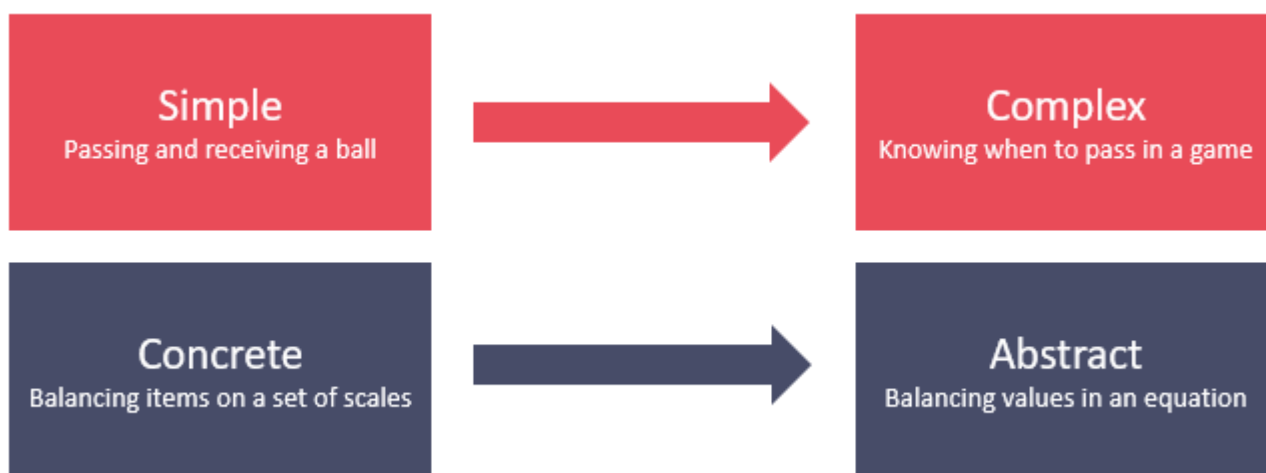|	
1. As part of a topic on Growing and 'understanding the world', Miss Day would like her pupils to plant seeds and watch them grow. What prior knowledge will pupils need to plant their seeds and help them to grow?	2. Mr Jones is teaching his class about the Romans. He would like them to write from the perspective of a Roman soldier about the recent success of an invasion. What do pupils need to know before writing this task?
3. Mr Mohammed gives his class the task: 'Calculate 3/5 of 20.' What do his pupils need to know before doing this task?	4. Mrs Simmons wants her class to play a team game of netball. What prior knowledge should pupils have before playing?

What prior knowledge might be needed to complete this task?

Task 2

Look back through your list of prior knowledge that pupils need. Sequence or number what pupils would need to know first in order to build their learning.

How might we sequence learning?

Simple		Complex
Passing and receiving a ball	→	Knowing when to pass in a game

Concrete		Abstract
Balancing items on a set of scales	→	Balancing values in an equation

Habit 3

Make the learning accessible by identifying how you will overcome barriers you know your pupils face and misconceptions that are likely to arise.

Barriers:
Core concepts **that are particularly complex** which students take time to grasp.

Example: Understanding the concept of 'democracy'.

Non-example: Knowing that 'apple' in French is 'pomme'.

Misconceptions:
Pre-existing beliefs that interfere with learning.

Example: The moon changes shape during a month, rather than different parts of it being illuminated.

Non-example: Mixing up the phases of the moon when learning it.

Maths example:

Barrier: Understanding the concept of past and to the hour when reading the time.

Misconception: Thinking that the shorter hand on the clock refers to minutes.

Let's see this in practice. We are going to watch a video of a Year 3 teacher teaching her class about time. Firstly, she is going to consider the barriers and misconceptions pupils may have before delivering the lesson.

Whilst watching the video, make notes on the following:

> How does the teacher identify the barriers and misconceptions that are likely to arise before her lesson, how does she plan to overcome this?

> How does she ensure that learning is accessible for pupils?

Notes:

Task

Consider an upcoming lesson or unit that you will be teaching.

> What misconceptions may arise?

> What barriers may pupils have?

> How will you plan to overcome these?

Lesson/Unit	
Misconceptions	
Barriers	
Strategies to overcome these	

Build lasting learning by planning for multiple retrieval and practice opportunities to prepare pupils to apply key knowledge.

Retrieval: Actively recalling from memory

Re-exposure: Representing the same material to build up familiarity

Massed Practice

'This is practising a skill without a break and occurs when an activity is repeated continuously over a period of time with very little or no rest period.'

Spaced Practice

'…consists of short, frequent practice sessions interspersed with rest intervals or intervals of learning another skill.'

Examples:

- 30 minute weekly spellings homework
- 15 minutes of 3x table practice
- 20 minutes of practising scoring a goal

Examples:

- 10 minute daily spelling practice
- 5 minute 3x table practice daily
- Penalty shoot-out and peer review

Thinking back to the Ebbinghaus forgetting curve:

> Which retrieval method would be best for long-term learning?

> How can we apply this to our planning?
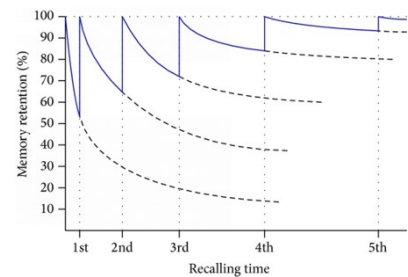
> **Notes:**

Habit 5

Habit 5: Increase complexity by ensuring the key knowledge is cumulative in its difficulty and that pupils apply their knowledge across a variety of contexts.

Strategies to develop deep learning

> Ensure acquisition before application

> Apply learning to a range of different contexts

> Ask open ended questions that promote higher order thinking e.g. 'Why...' based questions.

> Use a range of examples and non-examples

Notes:

Using examples and Non-Examples

Example

Which of these images best fits the description of a polar climate? Explain your choice.
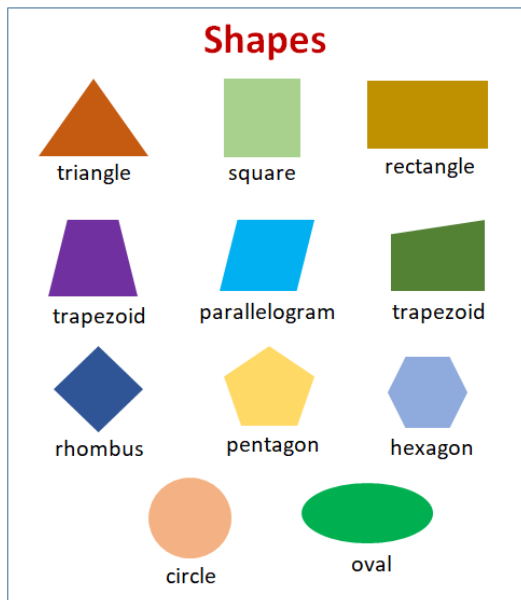

Pupil steps:

> Know what a polar climate

> Identify the features of a polar climate

Non-example

Which of these shapes are **not** quadrilaterals?

Pupil steps:

> Identify what a quadrilateral is (4-sided shape)

> Count the sides of each shape

> Identify which shapes have more or less than 4 sides and are therefore **not** quadrilaterals.
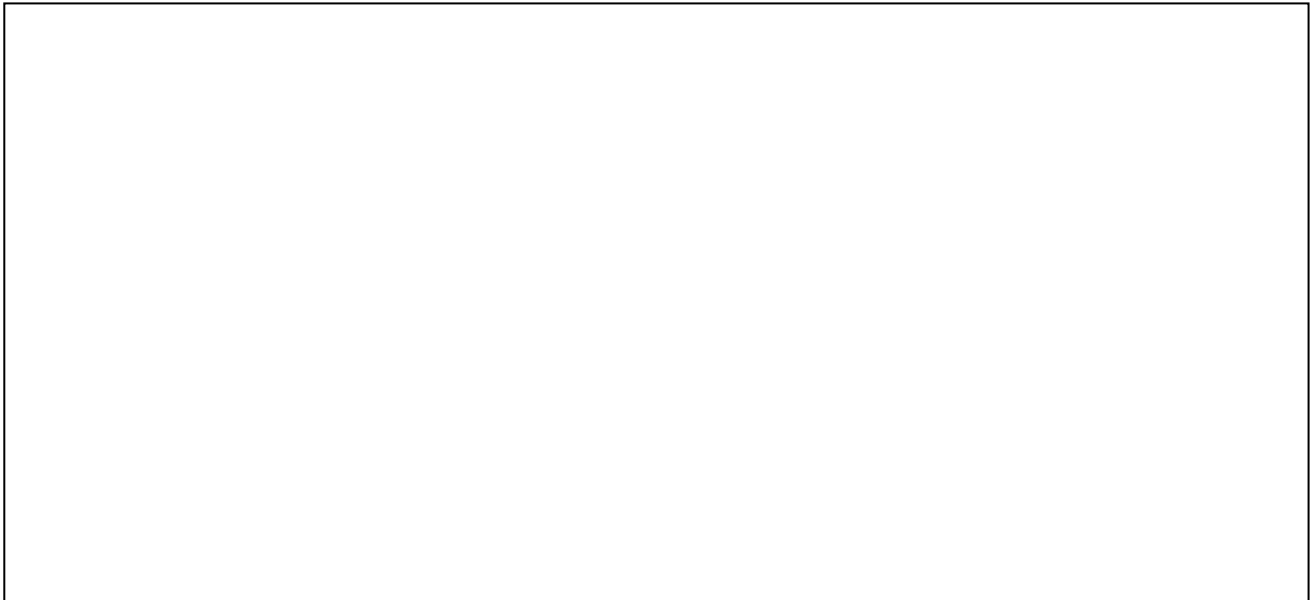
Task

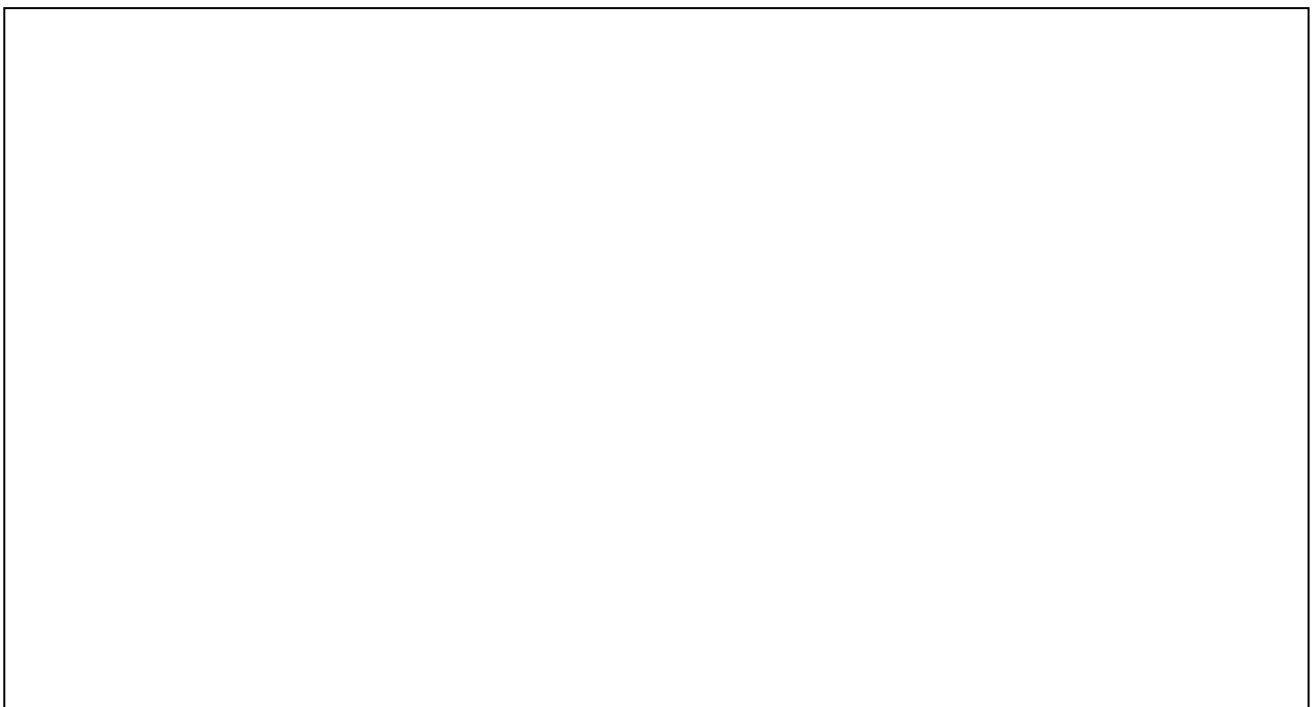What might an example and non-example look like for a topic or unit that you will be teaching?

Reflection

Reflect on what you have learnt today. Consider the following questions:

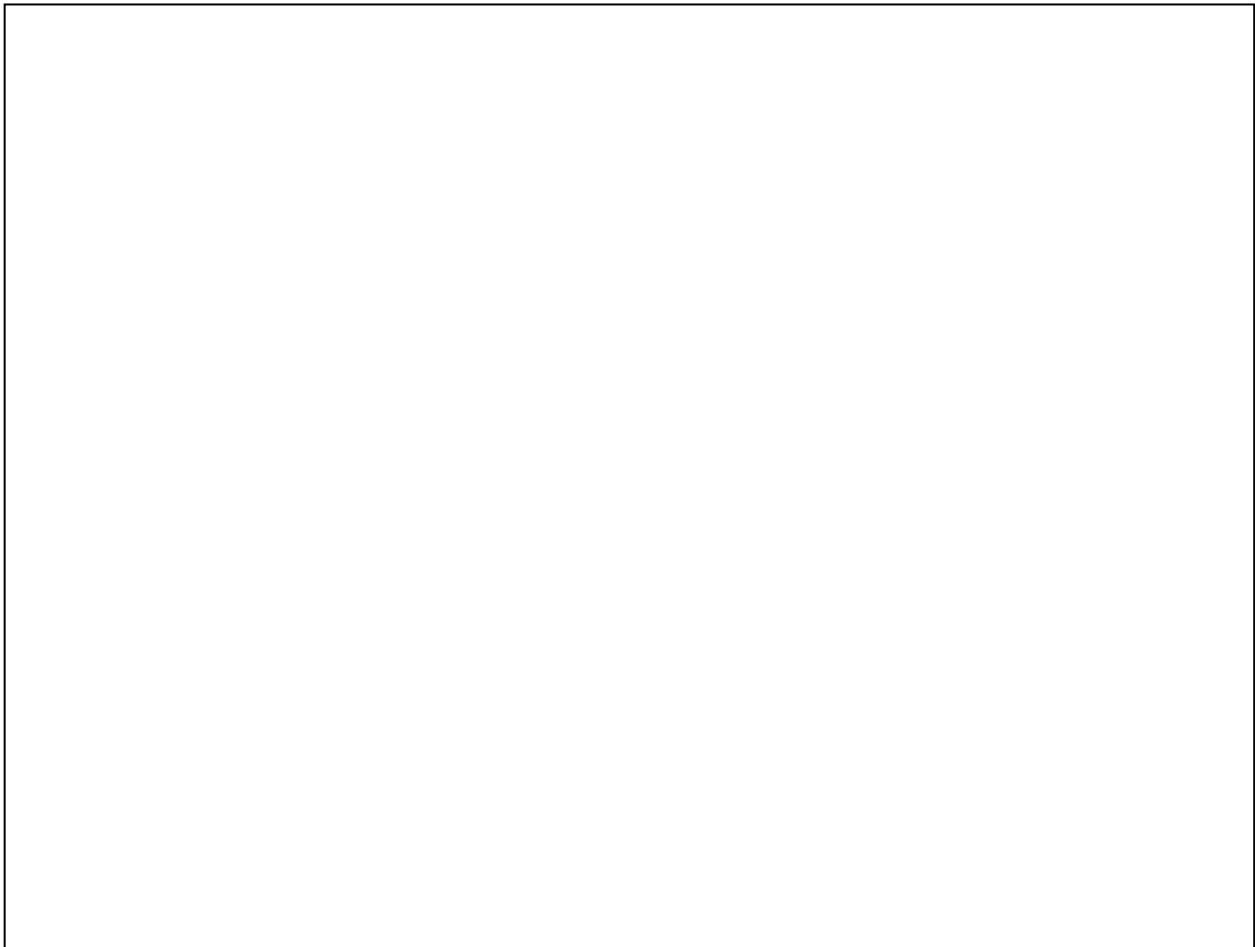**>** What impact will this have on your teaching?

> What impact will this have on your pupils?

> What is your main takeaway from today's session?

> Do you have any next steps? How will you hold yourself accountable for this?