

PGCE Secondary Sciences

Phase 2a Mentor Curriculum Guide



This guide provides essential information for mentors supporting student teachers during Phase 2a of their placement. It outlines your role, key responsibilities, and the structures in place to ensure student teachers receive comprehensive training and support.

As a mentor, you play a crucial role in bridging theoretical learning with practical classroom experience. This guide will help you provide structured support while ensuring student teachers meet the required standards and competencies.

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Phase 2a Expectations and Timetable

All aspects of education and training for student teachers must align with the Secondary Phased Expectations.

These expectations are structured around ten curriculum questions, each containing three components with clearly defined expectations for each phase. Rather than serving as a checklist, these expectations provide a comprehensive picture of expected student teacher progress by the end of each phase.

You can find the full phased expectations here: https://itt-placement.com/pgce-secondary/course-overview.php

Purpose of Phase 2

Phase 2 focuses on putting knowledge, skills and professional behaviours into practice through increased teaching responsibilities. The phase is divided into two sections: Phase 2a and Phase 2b.

During Phase 2a, student teachers progressively build toward teaching one full lesson per day alongside continued delivery of lesson segments.

Required Experiences

Student teachers may progress at different rates. Mentors should use their professional judgement about the number of lessons student teachers begin to teach, keeping in mind that they should be introduced gradually.

By the end of Phase 2a, student teachers should have completed:

- Observations of multiple teachers. It would be helpful if these observations begin to focus on KS4.
- Continued to plan and deliver parts of lessons (such as starters and activities).
- By week commencing 1st December, teaching around one full lesson per day that gradually increases.
- By the end of the phase, working towards teaching around eight lessons per week.

Timetabling Requirements

Student teachers require a structured timetable including:

- Minimum 15 hours of mentor-directed activity per week
- Protected planning time within their timetable
- Two weeks' advance notice of teaching commitments where possible

Lesson Planning Expectations

- Student teachers must complete full lesson plans for all lessons they deliver
- Mentors may request lesson plans 48 hours before teaching
- Recognise that lesson planning will require significant time investment, particularly early in the phase
- Consider this time requirement when setting the teaching timetable

Providing advance notice and protected planning time enables student teachers to prepare thoroughly while managing their increasing workload effectively.

Phase 2 Professional Studies

Student teachers will only have one day of professional studies during the entirety of Phase 2 – **Get That Job Conference** - on 12th December. This will focus on the logistics of applying for ECT roles.

Phase 2 Subject Studies

All student teachers will have attended the following subject studies sessions during Phase 2. The full subject curriculum map can be found at https://itt-placement.com/pgce-secondary/course-overview.php

Date	Learning Outcomes	Mentor follow-up	
7th November			
AM	Numeracy in science. Identifying key mathematical skills & possible barriers to learning.	Numeracy. • How do teachers use models to develop pupils'	
PM	Chemistry SKD – The Basics. Reviewing fundamental chemistry ideas and concepts. Using models and delivering explanations.	understanding?How do teachers use demonstration to develop pupils' understanding?	
14 th November			
AM	ITaP 3 - Feedback	Feedback in science.	
PM	Feedback in Science. Planning 4 (mid-term; 2 lessons). Planning Audit.	What is the school's policy for feedback?Which feedback strategies are used routinely in science lessons?	
21st Novembe	r	,	
AM	ITAP 3 – Reflection. Assignment 2 Prep.	Misconceptions.	
РМ	Intro to misconceptions. Defining and uncovering misconceptions. Concept mapping. Variation Theory. Exploring conceptual & procedural variation; in theory and in practice.	How do teachers deal with pupil misconceptions to minimise their impact upon learning?	
28 th November			
AM	Biology SKD - Microscopes & Osmosis. Experiencing required biology practical and developing biology substantive knowledge.	Controversial Issues. • How do teachers plan and prepare for	
РМ	Biology SKD – Dissection. Experiencing required biology practical and developing biology substantive knowledge.	potentially controversial practical investigation such as dissection?How do teachers respond to differing pupil attitudes towards controversial practical work?	
5th December			
AM	Physics SKD - Forces, Moments, Light & Thermal Energy.	Practical skills.	
РМ	Chemistry SKD - Preparing and delivering practical work & developing disciplinary knowledge. RSC - supporting chemistry & increasing diversity in STEM.	 How does the curriculum develop pupils' disciplinary knowledge, understanding & skills? How are pupils prepared for GCSE Required Practical activity? 	
19th Decembe	r		
AM	Get that Science job - letters of application. KS2-KS3 Transition. Impact of transitions on individuals' science learning. Collaborative/cooperative learning.	Scaffolding. • How do teachers develop a more advanced	
РМ	Preparing for Phase 2b. Developing disciplinary knowledge KS4 Required Practical Presentations. Teachmeet: Sharing best practice.	understanding of key principles in their pupils? • How are key principles scaffolded?	
Note: Inclusion a	and SEND case studies will be incorporated in	to subject sessions.	

Phase 2 Intensive Training and Practice (ITAP)

ITAP is a compulsory component of teacher education that introduces student teachers to foundational aspects of teaching practice. Through lectures and seminars, student teachers explore the relationship between theory and practice and deconstruct examples of practice.

Placement Expectations During ITAP

Student teachers will attend their placement as usual during ITAP periods. However, they must **not** follow their regular placement timetable. Instead, they will complete a structured series of activities focused on the specific aspect of practice being studied.

Mentor Responsibilities

As a mentor, you must ensure student teachers can complete all ITAP activities, which include:

- · Focused observations of practice
- Planning specific aspects of practice
- Implementing their planning in classroom settings

Phase 2 ITAP Schedule

Phase 2 includes ITAP 3: Effective Feedback.

Detailed guidance for supporting student teachers during each ITAP is available at: https://itt-placement.com/pgce-secondary/course-overview.php

Assignment Guidance

During Phases 2a and 2b, student teachers will complete four lessons (two per phase) as part of their SREF assignment. You may hear student teachers referring to this module throughout their placement.

Assignment Overview

Student teachers are required to:

- Implement a subject-specific teaching strategy they've researched through a literature review
- Plan and deliver four lessons using this strategy
- · Reflect on the strategy's effectiveness
- Connect their practical experience back to academic literature

The lessons can be delivered to any class and key stage. We recommend two lessons in Phase 2a and two in Phase 2b, allowing student teachers to compare the strategy's application across different school contexts.

Background Information

Student teachers will have:

- Completed a literature review on their chosen teaching strategy
- Attended subject studies sessions exploring this strategy in depth
- Developed theoretical understanding that now needs practical application

How You Can Support

Early in the phase:

- Ask your student teacher about their chosen teaching strategy
- Discuss how this strategy might work within your department's curriculum
- Help identify suitable classes for trying out the strategy
- Consider factors such as class dynamics, prior knowledge, and topic suitability

When selecting classes:

- · Suggest a mix of key stages if possible
- Consider classes where the strategy would naturally fit the content
- Avoid particularly challenging classes that might obscure the strategy's effectiveness
- Ensure chosen classes align with the student teacher's developing confidence level

During planning and delivery:

- · Provide feedback specifically on the implementation of their chosen strategy
- Help them notice aspects they might reflect upon
- Encourage them to document student responses and outcomes

This assignment bridges academic study with classroom practice, making your guidance on class selection and strategy implementation particularly valuable for their development and academic success.

Mentor Meetings

Weekly Mentor Meetings

As Phase 2 progresses, it becomes even more important that mentor meetings are regular and provide enough time for student teachers to discuss their progress and set weekly targets.

Purpose of Weekly Meetings

Weekly meetings provide structured opportunities to:

- Review progress against Phase 2 expectations
- Discuss observations and teaching experiences from the previous week
- Set specific, achievable targets for the coming week
- Address any concerns or challenges
- Plan upcoming teaching opportunities

Meeting Structure

Each meeting should:

- Last approximately 45-60 minutes
- Take place at a consistent time each week where possible
- Be documented with brief notes on progress and agreed targets
- Focus on developmental feedback linked to the Phase 1 expectations

Setting Effective Targets

Targets are one of the primary mechanisms for ensuring student teachers make progress against the phased expectations and subject studies curriculum. Effective target-setting drives development and provides clear direction for improvement.

SHARP Target Framework

All targets must follow the SHARP framework:

- **Specific** What exactly needs to be achieved? Is the target clearly defined? Does it use the language of the phase expectations?
- How How will the target be achieved? What actions will need to be taken?
- Achievable Is the target achievable within the timescale? Is there an
 opportunity to complete the target?
- Related Is the target related to the LJMU ITE Curriculum questions and associated phase expectations so that progress can be tracked?
- **Progressive** Is the target pitched in a progressive manner and appropriate for the current phase of training?

Target Requirements

Set a maximum of three targets each week, using the language of the phase expectations. Each phase has a distinct focus that should shape your targets:

- Phase 1 Observation and awareness: Targets focus on watching, noticing, understanding
- **Phase 2 Practice and collaboration:** Targets focus on trying strategies with support, working with others
- Phase 3 Confident application and evaluation: Targets focus on independent implementation and assessing impact

Student teachers should review their targets before each weekly meeting and complete a self-evaluation on the weekly meeting form. Following discussion and review of the week's experiences, establish new targets with associated actions.

Drafting SHARP Targets: Four-Step Process

Step 1: Identify the area for improvement from recent lesson observations or discussions with the student teacher.

Step 2: Ensure the proposed target aligns with the appropriate phased expectation. All education and training (University and School-based) must align with phased expectations to ensure sustained, consistent progress.

Step 3: Check the Mentor Curriculum Guide to confirm what the student teacher has covered at university. For example, before setting a target about supporting EAL pupils, verify the student teacher has encountered EAL content at university.

Step 4: Ensure the 'actions' section includes specific tasks the student teacher will complete related to the target.

Example Target

Area identified: Improve questioning

Phase Expectation link (Secondary Q5, Phase 2): "I can implement questioning techniques that prompt deepening understanding."

Weekly Meeting

Target: In classes 7b and 8a this week, use the 'Think-Pair-Share' (TPS) questioning technique to deepen understanding at least twice per lesson.

Actions:

- Draft key questions and request feedback on their effectiveness from expert colleagues
- Plan key questions for TPS and highlight them on plan
- Reflect on possible responses and prepare follow-up questions to deepen responses
- Reflect on effectiveness and be ready to discuss in next meeting

Phase 2 Subject Example Targets

Example 1

Area identified: Vocabulary.

Phase Expectation link (Secondary Q4, Phase 2): "I can incorporate specialist vocabulary into my lessons."

Weekly Meeting

Target: In all classes this week, plan opportunities for pupils to explore, and practise using, new scientific terminology during the lesson.

Actions:

- Identify and highlight key words on my lesson plan.
- Plan how to introduce new scientific terminology to pupils using appropriate strategies, e.g. direct instruction, reading activities.
- Plan to check all pupils' understanding of key words through use of appropriate strategies, e.g. whiteboard quizzing, matching word definitions, and drafting definitions.

Example 2

Area identified: Address misconceptions.

Phase Expectation link (Secondary Q5, Phase 2): "I develop lesson plans that anticipate potential misconceptions and areas of challenge."

Weekly Meeting

Target: Research and plan to address common misconceptions for my Year 7 unit.

Actions:

- Discuss common pupil misconceptions and possible strategies to address these with expert colleagues.
- Draft questions to address these misconceptions and request feedback from expert colleagues.
- Plan pupil activities which challenge pupil misconceptions.

Example 3

Area identified: Use of scientific models.

Phase Expectation link (Secondary Q6, Phase 2): "I use scaffolding strategies to teach potentially difficult concepts."

Weekly Meeting

Target: Use appropriate scientific models to explain electricity in my Year 8 lesson.

Actions:

- Identify possible scientific models to use from scheme of learning.
- Discuss advantages and limitations of models with expert colleague.
- Practise demonstration of model before lesson.
- Prepare pupil questions and activities.

Example 4

Area identified: Practical work.

Phase Expectation link (Secondary Q7, Phase 2): "I implement consistent routines that maximise learning time."

Weekly Meeting

Target: Plan organisation and management of Year 9 practical this week.

Actions:

- Complete a risk assessment for the practical.
- Discuss organisation of resources with Science Technician and practise practical activity before completing the lesson plan.
- Identify pupil routines for collection and return of practical equipment.
- Script pupil instructions for practical activity.

Phase 2a Subject Observation Guidance

As for Phase 1, these questions can be used as foci or prompts for lesson observations and mentor/student teacher discourse. Not all elements are required in every lesson and may be phase dependent i.e. expectation that more elements would be present in phase three of teaching as pedagogical knowledge, confidence, and highly effective practice are deepened and embedded.

	Question	Additional Information
1	Is a demonstration or interesting scenario used at the start of the lesson to stimulate learners' interest in science?	This may be to excite interest, or to link the lesson content to a real-world context.
2	Are learners carrying out relevant practical work (disciplinary knowledge) for which a specific risk assessment been carried out? If practical work is undertaken were learners fully informed about the steps which they needed to take to ensure they were working safely. Were those steps emphasised and enforced by the teacher?	Disciplinary knowledge is the knowledge of the practices of science (working scientifically). A risk assessment for the practical activity must be included with the lesson plan. This should identify measures to be taken to minimise risk to students e.g. wearing safety goggles.
3	Are learners challenged to predict outcomes, and are conclusions made by the end of the lesson?	Learners should be being challenged to think critically as scientists and demonstrate evidence of working scientifically.
4	Is there evidence that substantive knowledge (scientific theory) has been carefully sequenced? Are links made between the science content in this lesson and science content in other lessons?	Substantive knowledge is a knowledge of the products of science. i.e. science content. Content should be sequenced to allow students to develop complex structures in their long-term memory (schemas) that link knowledge and hence create meaning.
5	Are learners challenged to construct explanations and arguments, and to make connections by synthesising and summarising key science ideas?	Learners should be being challenged to think critically as scientists and demonstrate evidence of working scientifically.
6	Are learners using and applying new science ideas in a variety of ways and contexts?	Exploring how science ideas applied in different contexts challenge learners' misconceptions and helps to develop schemas.

Student Teacher Progress, Wellbeing and Support

Phase 2 marks a significant increase in teaching workload as student teachers transition from observation to more active practice and collaboration. This intensification of responsibilities can be challenging, requiring careful monitoring of both progress and wellbeing.

As student teachers take on more teaching responsibilities, they may struggle with time management, workload balance, or confidence. Early intervention is crucial to prevent small challenges from becoming significant barriers to progress.

Early Warning Signs

Please contact your Lead Mentor immediately if you observe any of the following:

Organisational concerns:

- Disorganised approach to teaching materials or resources
- Consistently late submission of lesson plans
- Difficulty managing responsibilities
- Frequently unprepared for lessons or meetings

Professional engagement concerns:

- Withdrawn behaviour in mentor meetings or staff room
- Reluctance to seek help or ask questions
- Avoiding collaboration with colleagues
- Declining participation in department activities

Wellbeing indicators:

- · Visible signs of stress or overwhelm
- Frequent absences or lateness
- · Significant changes in demeanour or enthusiasm
- Expressing persistent self-doubt beyond normal development concerns

Early identification and support of these issues ensure student teachers can successfully navigate the increased demands of Phase 2 while maintaining their wellbeing and making steady progress against phase expectations.

Available Support Resources

All student teachers have access to the 'I Need Help' page on Canvas (our virtual learning environment), which directs them to appropriate support services.

Raising Concerns

If you have concerns about a student teacher's wellbeing or welfare, please:

- 1. Contact your Lead Mentor in the first instance
- 2. Where appropriate, direct the student teacher to the LJMU student advice page:

Student advice and wellbeing | Discover | Liverpool John Moores University