

The LJMU Mentor Guide to the curriculum in Phase 2a Secondary



Phase 2a student teachers will start to develop their independence for planning and teaching with the support of expert colleagues. With support, they will plan lessons which match the needs of groups and individuals, and develop longer term planning through sequences of lessons as part of an ambitious curriculum.

At the end of Phase 2 we expect student teachers to:

- Create a learning environment which reflects consistently high expectations and manage pupils' behaviour in line with school policies.
- Plan and teach lessons which demonstrate understanding of how pupils learn and develop, and which select and use appropriate teaching strategies for the subject matter and classes taught.
- Demonstrate secure subject knowledge in their daily teaching and be proactive in addressing any areas of need.
- Use a range of assessment strategies to accurately evaluate both their own teaching and pupils' learning and progress, and be able to use this information to design, adapt and sequence future plans.
- Adapt planning and teaching to respond to a range of learning needs, and if necessary, know where to seek help and advice to support pupils with SEND.
- respond constructively to challenge, feedback and critique, and continuously improve their understanding and practice.
- Have a positive impact on pupil progress and an increasing confidence in teaching across the curriculum.

Prior to Phase 2a; student teachers will have been taught about:

Behaviour management
Rosenshine's Principles
Curriculum and progression
Questioning and dialogue in learning
Subject knowledge and pedagogy

They will also have been taught about: *(the timing & sequence of these may vary for School Direct students)*

The role of their subject in the wider curriculum and statutory requirements
Fundamental principles of how children learn
Cognitive science and memory
Principles of assessment
Observing learning & deconstructing learning following observation
Preparing for Phase 1 – the QTS file and mentoring expectations
Anti-racist education / inequality in education / teachers' responsibilities in respect of equality & diversity.

During science sessions trainees have been taught about:

- Managing behaviour safely in the laboratory
- The importance of safe practice and use of risk assessments
- The role of biology, chemistry and physics in the UK curriculum
- The nature of science and approaches to working scientifically
- Formative assessment in the science classroom
- Modelling, demonstration and explanation in science
- Developing pupils' evidential thinking skills

The Phase 2a ITE Curriculum:

In Phase 2a, the centre – based curriculum focuses on subject knowledge and pedagogy. We ask you to support students in exploring these further in schools.

The focus of weekly discussions is in black. Professional Development Activities for STUDENTS are in blue.

Date LJMU	Taught LJMU session	School-based focus	Mentor curriculum in weekly meeting and Professional Development Activities.
Friday 10 NOV	SKD Biology	Health and Safety	In your weekly mentor meeting discuss how teachers: <ul style="list-style-type: none"> Introduce health and safety rules to pupils. Share risk assessments with pupils. Maintain a safe working environment during practical work.
Friday 17 NOV	SKD Chemistry	The organisation of practical work.	In your weekly mentor meeting discuss how teachers: <ul style="list-style-type: none"> Organise pupils into groups for practical activities. Ensure that equipment is efficiently distributed to pupils and collected in after the practical. Manage the time pupils spend working on the practical. Draw pupils' findings together to identify key conclusions.
Friday 24 NOV	SKD Physics	The use of modelling and demonstration in science lessons.	In your weekly mentor meeting discuss how teachers <ul style="list-style-type: none"> use models and demonstrations to develop pupils' understanding.
Friday 1 DEC	Misconceptions in KS3 Science / Literacy in Science	The use of formative assessment in science lessons.	In your weekly mentor meeting discuss how staff: <ul style="list-style-type: none"> Encourage responses from a range of learners. Identify the range of assessment strategies used, and when they are most appropriate.
Friday 8 DEC	Collaborative & Cooperative learning	Pupils' misconceptions in KS3 science.	In your weekly mentor meeting discuss how teachers <ul style="list-style-type: none"> deal with pupil misconceptions to minimise their impact upon learning.
Friday 15 DEC	SKD Biology	The use of collaborative & cooperative learning in science lessons. Subject knowledge auditing.	In your weekly mentor meeting discuss group work strategies used by teachers, including Identifying strategies that are most effective in achieving productive, collaborative working. Subject knowledge audit update <ul style="list-style-type: none"> Review the subject knowledge targets set at the beginning of phase 2a. Identify topic areas in which positive development has taken place and in which further development is required. <p>Look forward to the curriculum to be delivered in the alternate placement and set initial targets for subject knowledge development.</p>

Observing trainees teach:

Please find below a list of science-specific questions to be used when observing trainees teach. The questions are not prescriptive and depending on the lesson being taught, it may be that some are not applicable. The questions have been devised in line with current research and Ofsted guidance on what effective science teaching looks like. Trainees have also been introduced to these questions within university and have been advised to use them when observing science lessons.

Focused Subject Specific questions to consider in observations

	Question	Additional Information
1	Is a demonstration or interesting scenario used at the start of the lesson to stimulate learners' interest in science?	<i>This may be to excite interest, or to link the lesson content to a real-world context.</i>
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 they needed to take to ensure they were working safely. Were those steps emphasised and enforced by the teacher?	<i>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.</i>
3	Are learners challenged to predict outcomes, and are conclusions made by the end of the lesson?	<i>Learners should be being challenged to think critically as scientists and demonstrate evidence of working scientifically.</i>
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?	<i>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.</i>
5.	Are learners challenged to construct explanations and arguments, and to make connections by synthesising and summarising key science ideas?	<i>Learners should be being challenged to think critically as scientists and demonstrate evidence of working scientifically.</i>
6.	Are learners using and applying new science ideas in a variety of ways and contexts?	<i>Exploring how science ideas apply in different contexts challenges learners' misconceptions and helps to develop schemas.</i>

Potential **Science Specific** Targets on Lesson Analysis Forms.

Lesson design and delivery, including sequencing and choice of teaching methods (CCF curriculum & pedagogy) Next Steps:
Make use of a hook at the start of the lesson to excite interest amongst the learners.
Identify the key substantive knowledge you want the learners to know from this lesson.
Model confident, accurate use of specialist vocabulary.
When problem solving, challenge learners to actively engage and contribute.
Use images and analogies to support understanding of difficult concepts.
Gather learners around the front if you are carrying out a demonstration.
Ensure that learners are clear on what to do in a practical activity by asking them to repeat back the steps to follow.
Use predict-observe-explain activities to identify and challenge learner misconceptions.

Pupil progress in this lesson and use of assessment (including questioning) (CCF assessment) Next Steps:
Use cold calling to assess learners' understanding of substantive content.
Ask learners to identify potential hazards and appropriate measure to minimise risk.
Bounce questions around the class to develop detailed answers to open ended questions.
Involve students in demonstrating practical skills.
Challenge learners to construct explanations and arguments based on their substantive knowledge.
Give opportunities for learners to summarise key science ideas in their words.

Comments about student teacher's developing Subject Knowledge and Pedagogy (CCF curriculum & pedagogy) Next Steps
Develop a knowledge of common learner misconceptions associated with the topic.
Practise practical demonstrations to ensure that they work as planned.
Become familiar with all steps in a practical activity to ensure that you can assist learners.
Observe an experienced teacher's use of practical activities to develop learner understanding.
Research real world contexts appropriate to the content and level of topic being taught.
Develop an understanding of potential links between the substantive knowledge of the sequence of learning and the learners' own personal knowledge and experiences.
Develop an awareness of the range of resources available to provide interest and variety to biology/chemistry/physics teaching.

Ofsted research review series: science

<https://www.gov.uk/government/publications/research-review-series-science/research-review-series-science>

Ofsted subject report series: science

<https://www.gov.uk/government/publications/subject-report-series-science/finding-the-optimum-the-science-subject-report--2>

Glossary

Disciplinary knowledge is the knowledge of the practices of science (working scientifically).

Substantive knowledge is a knowledge of the products of science (science content/theories).

Contact details: Ken Clays

K.Clays@ljamu.ac.uk

In Phase 2b, student teachers go to their alternate placement with no centre-based Curriculum but with continued support from their Liaison Tutor. The Phase 2b mentor guide will be accessible via www.itt-placement.com website.