**Primary PGCE**

**Study Guide, curriculum sequence, and Core Content Framework (CCF) mapping document FOR SCIENCE PATHWAY TRAINEES**



*Science may set limitations to knowledge but should not set limits to imagination.*

Bertram Russell

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# Primary PGCE Programme Values and Beliefs

All children deserve to be able to access, participate in and engage with learning, and have the best possible education experience. We know that good teachers are at the heart of this. With this in mind, we aim to develop **critically reflective** teachers - able to challenge existing assumptions (including their own) to adapt and develop their practice to meet the changing needs of their pupils. Our programme is designed to enable trainees to **understand and interrogate the principles of teaching and learning** which lie beneath practice, so that they can make **informed choices in their own practices**. We aim to develop trainees' confidence in **engaging with research** by helping them to understand and interpret research findings, and through direct experience of small-scale research-informed studies. Through this, we develop future teachers who have **agency**; they are adaptable, informed, and passionate about pupil learning. The Primary PGCE programme is designed to enable trainees to develop their pedagogical subject knowledge across the primary curriculum as well as developing their understanding of wider issues in education. The opportunity to specialise via different pathways allows trainees to develop their leadership potential by exploring such areas as curriculum design or a curriculum subject in more depth. Equipped with these qualities and skills, our trainees will join a wide community of teachers making a positive contribution to schools and a difference to children’s lives.

**Primary PGCE Programme aims**

Education is a complex and intellectually challenging process, the fundamental purpose of which is to prepare young people to take a full part in a changing, pluralist, and democratic society. Good teaching promotes effective learning. Throughout the PGCE year you will develop a personal and professional rationale for teaching and learning. The programme enables you to acquire the values, commitments, knowledge, understanding and skills that all teachers need. It also offers you opportunities for the development of personal transferable skills (self-management, learning skills, communication, teamwork, problem-solving and data-handling skills) and will provide you with the first stages in your profile of continuing professional development as a teacher. The programme contributes to both your immediate and your continuing professional education. At the end of the programme, you should be an effective classroom teacher, able to demonstrate your competences and to become an integrated member of the school community wherever you work. You will be equipped to work collaboratively and in dependently, with commitment to the all-round education of children. In the longer term, the PGCE course lays the foundation for lasting professional development. The PGCE programme leads into the MA Education programme, which we hope most of you will continue to during your first years of teaching. The Primary PGCE programme been designed to meet the requirements for Initial Teacher Education as set out in the Teachers’ Standards (DfE 2012) and ITT Criteria (DfE 2020).

**The aims of the University of Exeter Primary PGCE Programme are to:**

* achieve the standards necessary to qualify as a school teacher as identified in the Teachers’ Standards (2012)
* provide you with opportunities to engage with current research and debates in your field and consider the relationship between theory and practice
* develop your knowledge and understanding of how children learn and develop, and of the factors that can impact on their learning
* develop and extend your knowledge and understanding of the primary school curriculum, effective pedagogies and assessment strategies
* support the development of your subject knowledge and pedagogy to enable you to confidently teach across the primary age range
* develop knowledge and understanding of the teachers’ roles and responsibilities
* develop your understanding of how to plan your teaching to ensure progression and continuity across the curriculum areas and between phases
* provide advice and support to colleagues on curriculum content, pedagogy and assessment within a selected specialist subject, age-phase or context
* enable you to develop the skills of review, monitoring and evaluation, in order to contribute creatively and confidently as a new colleague in school, and to work successfully across multi-professional teams
* help you to recognise the importance of continuing professional development in supporting critical thinking, reflective practice and informed decision-making
* develop the ability to teach with imagination, enthusiasm and courage, and respond creatively to change.

## Reflective Practice

Your training year is just the beginning of your development as a teacher, and you will *not* exit the year knowing everything there is to know about teaching and learning. Instead, we aim to support you in becoming an autonomous, independent, critically aware and reflective practitioner - someone who is able to identify your strengths and areas for development, with a desire to keep learning, to keep growing and to keep engaging with developments in our wider understanding of teaching.

This course is founded on the concept of **principled**, **reflective** **practice**, the idea that we should approach teaching with an informed understanding of pedagogy, how children learn, and what values drive what we do in the classroom. Smagorinsky describes how different this is to the "silver bullet" notion of "best practice" (2009, p.15). While the idea of 'best' implies that there might be a fixed set of approaches to teaching that are always superior, the concepts of 'reflective practice' and 'principled practice' instead focus on thinking about why we teach in certain ways, and the impact this might have on our students. This focus on 'why' invites you to make links between research and practice, to reflect on your own values, to unpick the hidden assumptions that can lie beneath the surface of any teaching activity, and to consider how teaching and learning always operates in context.

Above all, we invite you to view your knowledge of how to teach as an evolving, flexible entity. You are not accumulating a fixed and static body of knowledge about practice, ready to transfer into your teaching; rather, you are learning about evidence-informed, research-inspired approaches to teaching that you can try out, reflect on and develop in your own classrooms. Just as research is always marching forward, as a teacher the way that you teach will likely evolve and change considerably over time. Our curriculum map offers one synthesis of current knowledge: but the principles that underlie your teaching will ultimately be your own.

# Welcome to the Primary Science Pathway

*"Science and everyday life cannot and should not be separated."*

— Rosalind Franklin

**Aims**

Subject specialisation within a primary PGCE course is unusual in most teacher education programmes, but we continue to offer this option because it attracts the most able and committed graduates and because we believe that developing children’s science learning demands the best talents available. Above all, we want you to graduate from this course as a subject leader able to generate enthusiasm for science learning in your pupils and your colleagues. We see your future role as helping children to learn science, and to use their learning, in a wide range of contexts. Many of you were selected because you have a background that predisposes you to this way of looking at science. You may already have experience of working with children in schools, environmental centres, summer camps and other informal contexts. We value all these contexts for science learning and will give emphasis to their importance throughout the course. This will be achieved by building in a range of experiences over and above lectures, workshops and school experience.

The module will focus on extending the breadth and depth of your understanding of science education in several directions, in order that you can develop children’s science learning in a number of ways. These include:

* Gaining a deeper understanding of approaches to science in order to understand its place in the curriculum and ways in which it can relate to other subjects.
* Focusing on leadership in science to enable you to evaluate and select materials, organise the subject within a school, and support your colleagues’ science teaching.
* Understanding the science dimension of education for sustainable development and how it is best incorporated within the primary curriculum.
* Being able to handle controversial issues with knowledge, tact and confidence.
* Being able to teach science creatively and being aware of gender, inclusion and social and cultural backgrounds.
* To understand the contexts and strategies of informal learning and be able to incorporate this knowledge into your practice as a teacher.
* Understand how to assess children’s learning in science so that you are able to set tasks based on systematic, accurate assessment of pupils prior skills, knowledge and understanding
* Appreciate how teaching in science can provide highly positive, memorable experiences and rich opportunities for high quality learning.
* Be able to use research to develop your understanding of effective science teaching and relate this to pupils needs.

Each of these strands is developed throughout the module, as indicated in the outline on the following pages. Peer learning and teaching is a feature of the module both by sharing strengths within the group and by providing support for fellow students in science within your core science groups.

*"I am among those who think that science has great beauty."*

* Marie Curie



The Tarantula Nebula, JWT

# The Curriculum

## Theoretical Framing

Our curriculum coheres around the *Exeter* *Model* *Framework* which draws together a spectrum of issues that sociocultural theories identify as important in educational decision making. This framework is used in a number of ways - not least as tool that you'll use to explore some he key topics within our curriculum through *framework reflections.*

Diagram, schematic

Description automatically generated

**The overall course is based on principles drawn from socio-cultural theories of learning. Learning to teach involves:**

* Situated activity - learning within a school context (‘Community of Practice’ –Lave and Wenger 1991)
* Opportunities for dialogue with others, particularly those more experienced (Vygotsky 1978; Mercer, Wegerif & Major 2019)
* Scaffolded progress towards independent practice (see Wood, Bruner, Ross 1976)
* Tools to make sense of the knowledge, skills and social and political contexts of teaching (see Engeström, 1999)
* Deliberately reflective thinking about teaching and learning, strengthened through engagement in classroom research (Schon 1987; Beauchamp 2015)
* Understanding that contradictions (e.g. between theory and current practice or between a teachers' view and a trainees' expectations) are stimuli for exploration of why these differences occur and for new thinking and practice. They are points of creative growth for individuals and ultimately for the system.

Beauchamp, C. (2015). Reflection in teacher education: issues emerging from a review of current literature. *Reflective Practice*, *16*(1), 123-141.

Engeström, Y. (1999). Activity theory and individual and social transformation. *Perspectives on activity theory*, *19*(38), 19-30.

Lave, J., & Wenger, E. (1991). *Situated learning: Legitimate peripheral participation*. Cambridge university press.

Mercer, N., Wegerif, R., & Major, L. (Eds.). (2019). *The Routledge international handbook of research on dialogic education*. Routledge.

Schön, D. A. (1987). *Educating the reflective practitioner: Toward a new design for teaching and learning in the professions*. Jossey-Bass.

Smagorinsky, P. (2009). EJ Extra: Is It Time to Abandon the Idea of" Best Practices" in the Teaching of English? *The English Journal*, *98*(6), 15-22

Vygotsky, L. S. (1978). Socio-cultural theory. *Mind in society*, *6*, 52-58.

Wood, D., Bruner, J. S., & Ross, G. (1976). The role of tutoring in problem solving. *Journal of child psychology and psychiatry*, *17*(2), 89-100.

Primary PGCE Programme Structure **– please see the Programme Handbook for a more in-depth look at how the course is structured**

The primary PGCE programme curriculum is structured to enable you to develop in-depth knowledge of subject-specific pedagogy in all primary curriculum subject areas, in the **Curriculum Studies Module**. This will give you a chance to explore and consolidate your understanding of pedagogical principles as they relate to *specific areas* of the curriculum.

Throughout the programme you will explore core concepts, moving from foundation concepts in the autumn term taught course towards adaptive expertise, both within curriculum subjects but also through the themed **Educational and Professional Studies Module**. Your understanding of how to engage critically with research and to develop your reflective practice is also sequenced through formative and summative assignments with reading and reflecting on research, then moves into developing confidence in conducting your own research-informed study. Your **Pathway Module** allows you to develop in-depth knowledge within a specialised area.

These strands work alongside your **school-based training** which offers more contextual, situated sessions to help you to translate theory into practice.

**The Teachers' Standards for QTS and Core Content for Initial Teacher Training**

Our curriculum does not separate out the [Teachers' Standards](https://www.gov.uk/government/publications/teachers-standards) and address them one by one. This is because we recognise how interrelated many of the standards are, and that you will be constantly developing your understanding and skills across all of the standards.

However, the Department for Education has published recommended 'Core Content' for Initial Teacher Training which offers a framework which should be considered a "minimum entitlement" for all trainees, and this presents the content atomistically against each standard: <https://www.gov.uk/government/publications/initial-teacher-training-itt-core-content-framework>.

The tables which follow present the DfE core content and show the key areas where we integrate this information into our course - through topics, tasks, assignments and seminars. They also indicate some of the ways in which our course goes beyond this minimum entitlement, outlining some additional ideas that you will explore.

Each year there are also additional optional enrichment opportunities, including the Graduate School of Education Research Lecture series in which leading experts present on a range of important educational topics each year.

Alongside the academic content, we support your progress towards the standards through our **phases**. There are different expectations within each phase - for example, of how much classroom contact time you have, or which training tools you use to evaluate and reflect. This *scaffolds* your progress in a gradual sequence which moves towards independent practice.

The 'profile descriptor' of each phase describes the knowledge, understanding and skills that we expect you to be able to demonstrate at the end of it. The movement through the phases is **flexible**, depending on your needs. Meeting the 'Developing Independence' phase indicates that you have met the standards required for the award of QTS.

Anticipating Practice

Enrichment and Extension

Beginning Practice

Consolidating Practice

Developing Independence

Your phases of development

# Primary Science Pathway

## Overview of the year

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Week | Dates | **Topic** | CCF links | Tutor |
|  | ***Autumn Term*** | | | | |
| ***Beginning Practice*** | 1 |  | **Introduction to the course**  The content and organisation ofthe course, a reflection on the anticipating practice phase. Discuss your expectations for the course and your personal philosophy of education QI Science  ***Group tutorials for Action Plan 1*** | 1.1, 1.2, 1.6, 2.1, 2.2, 2.3, 2.7, 2.8, 3.1, 3.3, 3.4, 3.5, 3.6, 3.8, 3.9, 4.1, 4.5, 5.2, 5.6, 6.6, 6.7, 7.6, 7.7. | HW/RF |
| 1 | Friday 23/09 | **Introduction to your first assignment.**  Minibeasts – working scientifically to look for and identify, and building inquiry questions  QI Science | 1.1, 1.2, 1.6, 2.1, 2.2, 2.3, 2.7, 3.5, 4.7, 5.3, 5.4, 5.5, 5.7, 7.1, 7.2, 7.3, 7.5, 7.7. | HW |
| 2 | Friday 30/09 | **Nature Connection**  Using Richardson’s research (2021) to explore the five paths to Nature Connection  QI Science | 1.1, 1.2, 1.6, 2.1, 2.2, 2.3, 2.7, 3.5, 4.7, 5.3, 5.4, 5.5, 5.7, 7.1, 7.2, 7.3, 7.5, 7.7. | HW |
| 3 | Friday 7/10 | **Informal learning** at the RAMM - children' learning, with science museum pedagogies  QI Science | 1.1, 1.2, 1.6, 2.1, 2.2, 2.3, 2.7, 3.5, 4.7, 5.3, 5.4, 5.5, 5.7, 7.1, 7.2, 7.3, 7.5, 7.7. | HW |
|  |  | ***FA Specialist assignment 1 due****: Friday 7th October. Feedback during the seminar.* | | |
| 4 | Friday 14/10 | **Science Enquiry** – The Human Body  Developing an understanding of teaching the human body in an interactive and rigorous way.  QI Science | 1.1-1.6, 2.1 -2.9, 3.1 – 3.7, 4.2- 4.7, 5.1, 5.5, 6.3 -6.7, 7.4, 7.5. | HW |
| 5 | 17/10 – 22/10 | Master Study week |  |  |
| 6 | Monday 24/10 | ***FA Specialist Assignment 2:*** *Literature Review to be emailed ion Friday 21st October (feedback 11th November)* | | |
| 6 | Friday 28/10 | **Education for Sustainability and Regeneration**  QI Science  (Over the next 2 weeks Individual **tutorials** to finalise **FRAP 2)** | 1.1, 1.2, 1.6, 2.1, 2.2, 2.3, 2.7, 3.5, 4.7, 5.3, 5.4, 5.5, 5.7, 7.1, 7.2, 7.3, 7.5, 7.7. | HW |
|  | 7 | 4/11 | **Teaching science in schools – planning for science**  QI Science | 1.1-1.6, 2.1 -2.9, 3.1 – 3.7, 4.2- 4.7, 5.1, 5.5, 6.3 -6.7, 7.4, 7.5. | HW |
| ***Beginning***  ***Practice*** | 8 & 9 | 7-18th Nov | School placement 1 autumn term |  |  |
| 10 | Friday 25/11 | **STEAM Education**  Team –teaching creative STEAM challenges. Giving purpose to learning  QI Science | 1.1-1.6, 2.1 -2.9, 3.1 – 3.7, 4.2- 4.7, 5.1, 5.5, 6.3 -6.7, 7.4, 7.5, 7.7 | HW |
| 11 | Friday 2/12 | **Dialogic Teaching in Science**  Input from Judith Klein-Starrman on dialogic methods in science.  QI Science | 1.1-1.6, 2.1 -2.9, 3.1 – 3.7, 4.2- 4.7, 5.1, 5.5, 6.3 -6.7, 7.4, 7.5. | J K-S & HW |
| 12 | Friday 9/12 | **Early Years Science (PLAYS) and celebration!**  QI Science | 1.1-1.6, 2.1 -2.9, 3.1 – 3.7, 4.2- 4.7, 5.1, 5.5, 6.3 -6.7, 7.4, 7.5. | HW |
|  |  |  | ***Submission of EPS Assignment on Thursday 5th January 2023 (feedback 26th January 2023)*** | | |
|  | ***Spring & Summer Terms*** | | | | |
| ***Beginning Practice***  ***Beginning Practice*** |  | 20/01 | **Seminar Day 1: EMPLOYABILITY**  Job Applications and Interviews  The Science of Birds - prep for the RSPB Big Garden Birdwatch. | **S3, S8** | HW |
|  | 10/02 | **Seminar Day 2: CROSS-CURRICULAR ML**  Planning and reflecting for primary science, including using medium term plans | **S1, S2, S3, S4, S8** | HW |
|  | 10/03 | **Seminar Day 3: INCLUSION/Adaptive teaching**  Subject Knowledge Blitz | **S3, S5, S7** | HW |
|  |  | ***Submission of Specialist Pathway Assignment Tuesday 18th April 2023 (Feedback Wednesday 10th May 2023)*** | | |
|  | 28/04 | **Seminar Day 4: Early Career** **& Forest School experience in Exmouth**  **This seminar will finish later than usual.** | **S1, S2, S3, S4, S5, S6** | HW |
|  | 29/06 | **Seminar Day 5**  Becoming a Science Leader & Early career teacher resilience.  Final day of the course reflection and celebrations! | **S1, S2, S3, S4. S5, S6, S&, S8, part 2** | HW |

## **Weekly structure**

**Autumn Term: Anticipating Practice Phase:** *Emphasis on CCF S3: subject & curriculum knowledge.*

**Week One**

**Introduction to the PGCE course**

Learning Outcomes:

* understand the structure of the PGCE course and Science Pathway module;
* be familiar with the roles and responsibilities of staff involved with the course;
* understand how we assess your progress, building from the INA to the AP1 and then FRAPs (formative assessment); essays/assignments for EPS and Specialism (summative assessment);
* know how to access documents through the Exeter Learning Environment (ELE) <https://vle.exeter.ac.uk/>

**Learning from experience to inform action plans**

Learning Outcomes:

* know about the Exeter Model and the requirements of the IDP
* be able to learn from opinions formed and observations made during your preliminary experience
* begin to relate practice-based experiences to theoretical perspectives
* use preliminary experience reflections and information on INA to inform your Action Plan 1 (AP1) on subject knowledge

**Introduction to Primary Science**

Learning Outcomes:

* understand our own perceptions and experiences of science
* become familiar with the Wellcome Trust report on the “State of Primary Science”
* Know how to do a QI science session

**Friday afternoon**

**Minibeasts**

Learning Outcomes:

* understand methods for collecting minibeasts
* developing knowledge of invertebrate identification and classification.
* Using minibeasts to launch an enquiry.

*Group tutorials will take place to formulate your Action Plan.*

*This session should help you to do Formative Assessment 1: critical analysis of an article.*

**CCF** 1.1, 1.2, 1.6, 2.1, 2.2, 2.3, 2.7, 2.8, 3.1, 3.3, 3.4, 3.5, 3.6, 3.8, 3.9, 4.1, 4.5, 5.2, 5.6, 6.6, 6.7, 7.6, 7.7

**Week Two**

**Nature Connection**

We will critically engage with the research finding of Derby University’s Nature Connection Group

Learning Outcomes:

* know about what Nature Connection is
* Demonstrate these through practical nature-based activities you can do in school with minimum resources.

1.1, 1.2, 1.6, 2.1, 2.2, 2.3, 2.7, 3.5, 4.7, 5.3, 5.4, 5.5, 5.7, 7.1, 7.2, 7.3, 7.5, 7.7.

**Week Three**

**Informal Learning**

Today we will visit the Royal Albert Memorial Museum (RAMM) museum in Exeter city centre, with three activates to explore while we are there

Learning Outcomes:

* Explore the concept of museum pedagogy
* See the possibilities of deepening our scientific understanding through informal learning

**CCF:** 1.1, 1.2, 1.6, 2.1, 2.2, 2.3, 2.7, 3.5, 4.7, 5.3, 5.4, 5.5, 5.7, 7.1, 7.2, 7.3, 7.5, 7.7.

**Week Four**

**Science Enquiry**

Learning Outcomes:

* An understanding of the basic principles of great science teaching
* Experience in making a science enquiry
* Start planning a short science lesson for your peer teaching

**CCF** 1.1-1.6, 2.1 -2.9, 3.1 – 3.7, 4.2- 4.7, 5.1, 5.5, 6.3 -6.7, 7.4, 7.5.

**Week Five**

**Master’s Level Reading Week**

There will be no seminar this week

**Week Six**

**Education for Sustainability and the Climate Crisis**

Learning Outcomes:

* Understand more about the climate crisis.
* Consider: what do children want?
* Explore children’s voices
* Take part in imaginative activities in Ecopedagogy

CCF 1.1, 1.2, 1.6, 2.1, 2.2, 2.3, 2.7, 3.5, 4.7, 5.3, 5.4, 5.5, 5.7, 7.1, 7.2, 7.3, 7.5, 7.7.

**Week Seven**

**Planning for teaching Science**

Learning Outcomes:

* Understand where to start when planning for science
* Know what some of the basic principles are – and how to ensure safety of the children
* plan a lesson for your placement class

CCF 1.1-1.6, 2.1 -2.9, 3.1 – 3.7, 4.2- 4.7, 5.1, 5.5, 6.3 -6.7, 7.4, 7.5.

**Week Eight & Nine**

**School-based work placements**

**Week Ten**

**STEAM education**

In this session, we look at **STEAM learning**, and how we can **Problem-Based Learning** as a pedagogical approach to science teaching.

We will build on work from our core sessions, and use TAPS to help us consider assessment in science.

Learning Outcomes:

* Understand the importance of STEAM education
* Know what some of the basic principles are – and how to ensure safety of the children
* conduct some ambitious STEAM investigations
* Use TAPS as a method of assessment

CCF 1.1-1.6, 2.1 -2.9, 3.1 – 3.7, 4.2- 4.7, 5.1, 5.5, 6.3 -6.7, 7.4, 7.5, 7.7

**Week Eleven**

**Dialogic Learning in science**

We will be working with Judith Kleine-Starrman a researcher in dialogic teaching for this session. There are some videos on ELE that you may need to access during the session and a Powerpoint for you to access.

Learning Outcomes:

* Enquire into these three questions:
  + Does the quality of dialogue in classrooms matter for children’s learning?
  + Can we improve education by improving the quality of dialogue in classrooms?
  + How is talk important for developing scientific understanding?

CCF 1.1-1.6, 2.1 -2.9, 3.1 – 3.7, 4.2- 4.7, 5.1, 5.5, 6.3 -6.7, 7.4, 7.5.

**Week Twelve**

**Teaching Science in the Early Years**

We will spend some time looking at Early Years Science, how it is taught and assessed, and what pedagogies we can use through the school.

Learning Outcomes:

* improved knowledge and understanding of early years science
* increased confidence in teaching the early years
* greater enthusiasm in early years pedagogies

CCF 1.1-1.6, 2.1 -2.9, 3.1 – 3.7, 4.2- 4.7, 5.1, 5.5, 6.3 -6.7, 7.4, 7.5.

**Spring Term: Consolidating Practice Phase:** *Emphasis on CCF*

**Seminar Day 1: Employability**

Applications and Interviews

The Science of Birds - prep for the RSPB Big Garden Birdwatch.

Learning Outcomes:

* Feel prepared for applying for job, and interviews.

Improved knowledge and understanding of birds

* How you can teach about birds interactively
* Be prepared to do the Big Garden Bird Watch.

CCF – all areas

**Seminar Day 2: Cross-curricular ML**

Planning and reflecting for primary science, including using medium term plans

Learning Outcomes:

* plan a sequence of lessons
* research other plans and explore progression

CCF: 1.2, 1.3, 1.4, 1.5, 1.6, 2.1, 2.2, 2.6, 2.7, 2.9, 3.2, 3.4, 3.5, 4.1, 4.3, 5.1, 5.2, 6.3, 7.1, 7.2, 7.6, 7.7, 8.1, 8.3, 8.4, 8.7

**Seminar Day 3: Inclusion and Adaptive Teaching**

Becoming a Science Leader

Learning Outcomes:

* understand what is required of a subject lead in science
* being a leader in science

CCF: 1.1, 1.2, 4.1, 4.2, 4.9, 4.10, 5.1, 5.2, 5.3, 5.4, 5.5, 5.6, 5.7

**Summer: Term: Developing Independence Phase:** *Emphasis on CCF*

**Seminar Day 4: Inclusion, Prevent and British Values**

On this day, we will be going to [The Forest School at Exmouth](https://www.outdoorsgroup.co.uk/exmouth-forest-school/) where will experience an insight into forest school: building dens, creativity, teamwork, exploring the woodland, games, campfires and child-led fun. ***We will have a later finish today.***

CCF: 1.2, 1.3, 1.4, 1.5, 1.6, 2.1, 2.2, 2.6, 2.7, 2.9, 3.2, 3.4, 3.5, 4.1, 4.3, 5.1, 5.2, 6.3, 7.1, 7.2, 7.6, 7.7, 8.1, 8.3, 8.4, 8.7 & Part 2

**Seminar Day 5: Early Career Teacher**

Final day of the course reflection and celebrations!

CCF: all applicable



## Assignment details

Science Pathway Assignments

|  |  |  |
| --- | --- | --- |
| **Assignment** | **Submission Date** | **Feedback** |
| Pathway Assignment 1 (Formative) | Friday 7th October 2022 | Friday 7th October 2022 |
| Pathway Assignment 2 (Formative) | Friday 21st October 2022 | Friday 11th November 2022 |
| **Pathway Assignment 3 (Summative)** | **Tuesday 18th  April 2023** | **Wednesday 10th May 2023** |

**CCF** 1.1, 2.1, 2.2, 3.1- 3.8, 4.1-4.11, 8.2.

**Specialist assignment 1**

(Formative) Word length: 500 words maximum.

***A critique of a research paper***

Objective: To begin to understand the theoretical background and educational rationale underpinning your specialism and to develop critical analysis of literature.

**Task**: You should critically review the article provided and make notes, focusing on: the theoretical underpinning of the article the key implications for understanding teaching and learning as this relates to your specialist area Also note:

* anything you feel is very relevant to your specialism
* anything you are unclear about
* anything you disagree with

To support you in your own writing at M level you should assess the quality of the work: What makes it a good piece of academic work? In what ways does it meet the Distinction criteria outlined in the M level criteria for your Specialist Assignment? Your notes should indicate

* an analysis of the theoretical underpinning and key implications
* your understanding of the relevance of the key points
* a brief summary of key points or questions that stem from the analysis.

**Specialist assignment 2**

(Formative) Word length: **1, 000 words maximum**.

***Developing a literature review***; using research, policy and theory to explore a question.

Objective: To develop your understanding of the theoretical background and educational rationale underpinning your specialism; to further develop your skills in critiquing and reviewing literature.

**Task:**You should write a literature review on the following title: ***Children’s understanding and learning about evolution.***

You should discuss:

* What is evolution? (briefly)
* Children’s knowledge and understanding of evolution
* Barriers and misconceptions in teaching evolution
* How should evolution be taught to primary aged children?

Remember to:

* Analyse the theoretical/research underpinnings of the papers and the key implications that relate to your chosen topic.
* Compare and contrast the ideas and viewpoints that are presented in the papers.
* Summarise the review by synthesising points that you could take forward to investigate further.

You should use APA Harvard referencing conventions, address the normal academic conventions and use Standard English.

Choose approximately six articles from the list in this section or other references you have found to write your literature review.

**Specialist Assignment 3**

(Summative) Word length: **4,000 words maximum**.

Research Informed Study; a title and focus of your choice depending on your scientific interest, experiences in school and teaching aspirations

Objective: To develop a deeper understanding of a specific aspect of children’s learning in science

You should consider the following:

* clearly focus on the various aspects of the title you choose.
* include your experiences- What you observed children doing, what you learned from discussions with children, staff at schools and centres, what you have learnt from your own critical evaluations when teaching in schools and non-school centres).
* use theories of learning e.g. constructivism to support your discussion.
* discuss ideas and issues critically and analytically, showing an ability to bring different ideas together to create a synthesis and develop a coherent flow
* relate your discussion to the literature and to practical situations in schools and/or non-school placements
* make sure all references use the APA Harvard system detailed in the PGCE course handbook.
* demonstrate some originality and maturity of thought
* discuss the implications for your own future practice
* organise your work dividing it into appropriate sections forming a complete coherent structure
* write with clarity and precision throughout. Accurate spelling and correct punctuation



## Resources

**Core Practitioner Journals**

[Primary Science](https://www.ase.org.uk/resources/primary-science)

[Journal of Emergent Science](https://www.ase.org.uk/resources/journal-of-emergent-science)

**Essential Websites**

[CLEAPSS](https://www.cleapss.org.uk/)

Association of Science Education <https://www.ase.org.uk/>

[Primary Science Teaching Trust](https://pstt.org.uk/)

[Explorify](https://explorify.uk/en/activities)

[PLAN – Planning for Assessment](https://www.planassessment.com/product-page/examples-of-work-everyday-materials-y1-tahmeed)

[TAPS - Teacher Assessment in Primary Science](https://pstt.org.uk/resources/curriculum-materials/assessment)

**Core Texts**

1. Cutting, R. and Kelly, O. (2015) ***Creative Teaching in Primary Science***: London: Sage.

This is a short book, which gives a creative and meaningful context to science education.

1. Harlen, W. & Qualter, A. (2018) ***The Teaching of Science in Primary Schools*** (Seventh Edition), London: David Fulton Publishers.

This is a key text and I recommend that you have a copy – either digitally or in print. You can get sixth editions second hand and there is not too much difference between editions.

1. Kidd, D. (2020) ***A Curriculum of Hope: As Rich in Humanity as in Knowledge***: Independent Thinking Press.

This is an inspirational book, exploring how good curriculum design can empower schools to build bridges between their pupils’ learning and the world around them.

1. Peacock, G., Sharp, J., Johnsey, R., Wright, D., & Sewell, K. (2017). ***Primary science: knowledge and understanding***. Learning Matters.

This focuses on science subject knowledge, grounded in the new National Curriculum

1. Waite, S. (ed.) (2011) ***Children Learning Outside the Classroom: from Birth to Eleven***. London: Sage.

Sue Waite has done a great deal of research into outdoor education in Devon, and this book looks at theoretical and global perspectives as well as practice and progression.

**Wider Reading for Science**

Association for Science Education (ASE) (2011) ***Be Safe.*** *4th Edition.* Hatfield: ASE. [ISBN: 9780863574269](https://www.ase.org.uk/bookshop/be-safe-4th-edition-health-safety-in-school-science-technology-teachers-of-3-12-year-olds)

Bowker, R. & Horton, P. (2008) ***Survive and Thrive: An educational programme exploring the powerful mix of outdoor pursuits, deep immersion in nature and environmental understanding***. *Environmental Education*, 87, Spring, 33-35.

Devon County Council (2016) [***Outdoor Education, Visits and Off-Site Activities.***](https://www.ide.devon.sch.uk/wp-content/uploads/2019/07/OEVOSA_September_2016_2.pdf)Exeter: Devon Curriculum Services.

DfE (2018) [***Health and Safety on Educational Visits***](https://www.gov.uk/government/publications/health-and-safety-on-educational-visits/health-and-safety-on-educational-visits)**,** London: DfE Publications.

DCSF (2006) ***Manifesto for Learning Outside the Classroom***, London: DCSF Publications.

Gardner, H. (1995) ***The Unschooled Mind: How Children Think And How Schools Should Teach.*** New York: Basic Books.

Gray, P., 2013. ***Free to learn: Why unleashing the instinct to play will make our children happier, more self-reliant, and better students for life.*** Hachette UK.

Griffiths, J., 2013. ***Kith: The riddle of the childscape***. Penguin UK.

Fjørtoft, I. (2004) ***Landscape as playscape: The effects of natural environments on children’s play and motor development***, *Children, Youth and Environments*, 14 (2), 21-44.

Knight, S. (2016). ***Forest school in practice: For all ages***. Sage.

Knight, S. (2018). ***Translating forest school: A response to Leather***. Journal of Outdoor and Environmental Education, 21(1), 19-23.

Leicht, A., Heiss, J. and Byun, W.J., 2018. ***Issues And Trends In Education For Sustainable Development*** (Vol. 5). UNESCO Publishing.

Lotz-Sisitka, H., 2017. [***Education and the common good***](https://www.researchgate.net/profile/Heila_Lotz-Sisitka/publication/315352240_Education_and_the_Common_Good/links/5c2c81ff299bf12be3a769c0/Education-and-the-Common-Good.pdf). In *Post-Sustainability and Environmental Education* (pp. 63-76). Palgrave Macmillan, Cham.

Selby, D., Selby, D. and Kagawa, F., 2015. ***Thoughts from a darkened corner: Transformative learning for the gathering storm***. Sustainability frontiers: Critical and transformative voices from the borderlands of sustainability education, pp.21-41.

Waller, N (2017) ***A Creative Approach to Teaching Science***: Bloomsbury Education

Wenham, M., Ovens, P (2009) ***Understanding Primary Science: Ideas Concepts & Explanations***(Third Edition), London: Paul Chapman Publishing.

# Mapping against the Core Content Framework

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| **High Expectations (Standard 1 – ‘Set high expectations’)** | | | |
| **Learn that…** | **Education and Professional Studies** | **Subject Knowledge and Pedagogy: Curriculum Studies and Pathway** | **Professional Studies** |
| 1.1 Teachers have the ability to affect and improve the wellbeing, motivation and behaviour of their pupils. | Child Development  Behaviour  Informal Learning  Child Protection and Safeguarding  Curriculum design  *Challenging the Gap Task* | **English:** Creating literacy environments which are safe and stimulating, and which motivate pupils to develop a love of reading, writing, and speaking and listening. The importance of providing pupils with a rich and varied diet of literature, which includes representations of minority groups, ethnicities, and languages. The importance of inclusive practice for pupils with SEND and EAL.  **Mathematics:** Exploring calculation policies in schools, reflecting growth mind set and mathematical anxiety  **Science:** Generating an exciting and relevant scientific environment, which motivates students to develop their scientific understanding. For instance, learning in nature, creating a crime scene for forensics, and traveling to Mars.  **Art:** emphasis on art as communication, effective and affective dimensions  **Computing:** Having a multi-modal approach to computing, which includes unplugged activities which can be done outside.  **Design and Technology:** Creating a safe and stimulating environment.  **Humanities:** Establishing a safe environment of mutual respect with comparisons of similarities and differences, championing diversity and global education.  **Modern Languages: L**anguage learning strategies (e.g. memorisation), metacognitive strategies; understanding how children learn)  **Music:** Foster of love of singing, instrumental playing and collaborative music making  **PE:** Developing a safe, engaging and positive learning environment for *all* pupils to participate, progress and compete in PE and school sport. | **Children’s Learning** – Expectations and Target Setting |
| **Science Pathway:**   * Outdoor learning and museum pedagogy * Understanding the Science curriculum * Understanding motivation and how outstanding science teaching can engage learners |
| 1.2 Teachers are key role models, who can influence the attitudes, values and behaviours of their pupils. | Behaviour  Being a Teacher  Professionalism and Researchful Practice | **English:** Reflecting on the importance of providing a rich literature curriculum which includes and stimulates all pupils, including in minority contexts of EAL, representations of minority groups and language diversity  **Mathematics:** Mathematics as human activities is introduced and positive attitudes towards mathematics is emphasised. Making mistakes is seen as a part of learning process for conceptual understanding as well as procedural fluency  **Science:** Demonstrating scientific attitudes as well as understanding, through promoting scientific rigour and cultural responsiveness.  **Art:** Modelling a highly positive attitude to art, craft and design and offering inspiration through curriculum and teaching  **Computing:** Modelling and practicing a computing mind-set, with logical reasoning and creativity.  **Design and Technology:**  **Humanities:** Considering differentiation and inclusion in Geography, History and RE. Demonstrating positive attitudes in discussions for example in engaging with the Philosophy 4 Children project  **Modern Languages:** Encouraging confidence in ML and curiosity about the world  **Music:** Fostering a safe and simulating classroomenvironment for music making. Demonstrate positive attitudes, values and behaviour towards listening, appraising, composing and performing  **PE:** Demonstrating a healthy, active lifestyle and positive attitude toward PE and inspiring pupils to learn through motivational lessons. |  |
| **Science Pathway:**  Modelling positive scientific attitudes and values |
| 1.3 Teacher expectations can affect pupil outcomes; setting goals that challenge and stretch pupils is essential. | Purpose of Education  Curriculum Design  Educational Theory  Creativity  *Challenging the Gap* | **English:** Planning for progress within and across all planned episodes of teaching, and which take into account the diversity of pupils’ learning needs (e.g. SSP peer teaching and weekly plans)  **Mathematics:** Problem solving activities to stretch pupils modelled by maths pathway trainees.  **Science:** Exploring our own learning through Humanist educational theory.  **Art:** setting suitably high expectations for all learners  **Computing:** Input on computing with children with SEND  **Design and Technology:** Set high expectations for all  **Humanities:** Stimulating pupils using story to engage them with History, modelling use of videos and interactive activities and employing artefacts to draw in all pupils even those who may struggle with extended reading.  **Modern Languages:** Knowledge about language (grammar, phonics, vocabulary)  **Music:** Demonstrate high expectations and confidence for all aspects of music making  **PE:** Planning motivational lessons which both challenge and support pupil learning. | **Children’s Learning** – Expectations and Target Setting |
| **Science Pathway:**   * Exploring EYFS and KS3 science * Understanding progression in Science * Assessment – with focus on assessing skills |
| 1.4 Setting clear expectations can help communicate shared values that improve classroom and school culture. | Behaviour  *Challenging the Gap* | **English:** Reflecting on the importance of providing a rich literature curriculum which includes and stimulates all pupils, including in minority contexts of EAL, representations of minority groups and language diversity  **Mathematics:** Setting clear expectations for use of maths equipment.  **Science:** Demonstrating scientific values including the value of enquiry, knowledge, culture and decolonial science.  **Art:** e.g., looking at values as explored through artworks  **Computing:**  **Design and Technology:**  **Humanities:** Humanities skills, develop understanding of what subject knowledge is important and providing access and resources for developing that. Examining pedagogical approaches to teaching Geography, History and RE. Engaging with current research in the field of humanities  **Modern Languages:** Language learning strategies, importance of ‘having a go’  **Music:** Promote high quality music making throughout the school  **PE:** Setting realistic expectations and exploring shared values through PE. | **Children’s Learning** – Expectations and Target Setting **Welfare:** Safeguarding and Pastoral Systems |
| **Science Pathway:**  Demonstrating scientific values including the value of enquiry, knowledge, culture and diversifying science. |
| 1.5 A culture of mutual trust and respect supports effective relationships. | Behaviour  Child Protection and Safeguarding | **English:** Planning lessons that are safe and stimulating and which inspire learners to develop understanding of and empathy for others’ perspectives and lived experiences  **Mathematics:**  **Science:** Planning and evaluating lessons that are motivating and inclusive.  **Art:** ensuring balance between teacher-directed content and student choice  **Computing:** Peer collaboration in activities  **Design and Technology:**  **Humanities:** identifying own worldview and theevolutionary process that has formed these facilities greater mutual respect for those with different worldviews/religions.  **Modern Languages:** Intercultural Understanding, creating a positive classroom atmosphere, understanding ML anxiety and affective filter (and dealing with our own)  **Music:** Provide opportunities for creative thinking, exploration and practical work  **PE:** Building positive teacher-pupil relationships based on trust, respect and support. |  |
| **Science Pathway:**   * Peer teaching and peer support |
| 1.6 High-quality teaching has a long-term positive effect on pupils’ life chances, particularly for children from disadvantaged backgrounds. | Race and Education: Preparing to teach children from all backgrounds  Addressing issues of gender and social inequality  *Challenging the Gap* | **English:** Motivating pupils to read for pleasure and reflecting on the positive impact that reading makes in children’s lives  **Mathematics:**  **Science:**  Developing and nurturing a passion for science and sustainability, and an understanding of its significance to our futures.  **Art:** art making for enjoyment and wellbeing as well as knowledge and skill acquisition  **Computing:** empowerment in the developing confidence in computing.  **Design and Technology:**  **Humanities:** Setting high expectations for all pupils regardless of gender or ethnicity.  **Modern Languages:** Planning for motivation and engagement; storytelling as stimulus for curriculum design  **Music:** Promote a lifelong love of music and performing  **PE:** Improving the life chances of all pupils through knowledgeable, confident and enthusiastic PE teaching. | **Children’s Learning** – Expectations and Target Setting |
| **Science Pathway:**   * High quality Science teaching * Engaging with issues of sustainability; environmental and social justice |

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| **High Expectations (Standard 1 – ‘Set high expectations’)** | |
| **Learn how to…** | **SBW** |
| **Communicate a belief in the academic potential of all pupils, by:**   * Receiving clear, consistent and effective mentoring in how to set tasks that stretch pupils, but which are achievable, within a challenging curriculum.   **And - following expert input - by taking opportunities to practise, receive feedback and improve at:**   * Using intentional and consistent language that promotes challenge and aspiration. * Creating a positive environment where making mistakes and learning from them and the need for effort and perseverance are part of the daily routine. * Seeking opportunities to engage parents and carers in the education of their children (e.g. proactively highlighting successes) with support from expert colleagues to understand how this engagement changes depending on the age and development stage of the pupil.   **Demonstrate consistently high behavioural expectations, by:**   * Receiving clear, consistent and effective mentoring in how to create a culture of respect and trust in the classroom that supports all pupils to succeed (e.g. by modelling the types of courteous behaviour expected of pupils).   **And - following expert input - by taking opportunities to practise, receive feedback and improve at:**   * Teaching and rigorously maintaining clear behavioural expectations (e.g. for contributions, volume level and concentration). * Applying rules, sanctions and rewards in line with school policy, escalating behaviour incidents as appropriate. * Acknowledging and praising pupil effort and emphasising progress being made. | Trainees use the Exeter Model training tools, in conjunction with consistent and effective mentoring from their LEAD MENTOR and REFLECTIVE MENTOR, to build on the expert input provided by the ‘Learn That…’ aspects of the curriculum to meet the ‘Learn how to…’ aspects at a pace and in a sequence that suits their individual needs.  *Challenging the Gap Framework Task*  *SEND Framework Task* |

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| **How Pupils Learn (Standard 2 – ‘Promote good progress’)** | | | |
| **Learn that…** | **Education and Professional Studies** | **Subject Knowledge and Pedagogy: Curriculum Studies and Pathway** | **Professional Studies** |
| 2.1 Learning involves a lasting change in pupils’ capabilities or understanding. | Educational Theory  Child Development  Informal Learning  Professionalism and Researchful Practice | **English:** The importance of scaffolding pupils’ thinking as they perform everyday tasks of reading and writing  **Mathematics:**  **Science:** Understanding the ‘threshold concept’, using analogies and models in science, and how significant these are to learning.  **Art:** embodied learning in the subject  **Computing:** Developing life-long computing skills  **Design and Technology:** Developing lifelong making and designing skills  **Humanities:** The enquiry approach in humanities is introduced and discussed in relation to a didactic approach to teaching Humanities  **Modern Languages:** Language learning strategies, oracy and literacy  **Music:** Provide children with high-quality opportunities to engage in practical work  **PE:** Planning PE teaching which builds on pupils’ prior knowledge and experiences, carefully scaffolds their learning and monitors their progress. |  |
| **Science Pathway:**   * Outdoor learning, nature connection, sustainability, museum pedagogy * pedagogical approaches to science * KS 2/3 transition, Early years/KS1 * How children learn science |
| 2.2 Prior knowledge plays an important role in how pupils learn; committing some key facts to their long-term memory is likely to help pupils learn more complex ideas. | Educational Theory | **English:** Reading assessment task: reflecting on the importance of pitching books to pupils' instruction level of reading  **Mathematics:** learning in maths – such as considering activities to discovery mathematical rules through enquiry and strategies to learn times tables etc.  **Science:** The ideas of meta-cognition and, deep and shallow learning is discussed i.e. Why don't we just tell children the answers? Prior knowledge used in action.  **Art:** activities should always build on prior experience and knowledge  **Computing:** understanding the importance of building on prior learning.  **Design and Technology:**  **Humanities:** Identification of ethno knowledge (pupils’ prior knowledge) crucial foundation point in humanities.  **Modern Languages:** Language learning strategies  **Music:** Understand the importance of prior learning and progression in the music curriculum.  **PE:** Understanding the importance of pupils’ prior knowledge when planning motivational PE lessons. |  |
| **Science Pathway:**   * Starting with children’s ideas and questions * Threshold concepts and tricky subjects |
| 2.3 An important factor in learning is memory, which can be thought of as comprising two elements: working memory and long-term memory. | Educational Theory | **English:** Learningstrategies which extend pupils’ long and short-term memory in everyday tasks of reading and writing. Making use of spaced retrieval and interleaving for the teaching of SSP  **Mathematics:**  **Science:** revision of key points, time allocated for reflective practice.  **Art:** revisiting key learning points is vital (eg visual elements, vocab etc.)  **Computing:**  **Design and Technology:**  **Humanities:**  **Modern Languages:** rote learning in languages, graded questioning  **Music:** Engage in singing and instrumental work using memory and recall  **PE:** Drawing upon key learning theories (e.g. cognitive load) to inform planning and teaching in PE. |  |
| **Science Pathway:**   * Building on core seminars to extend and consolidate knowledge and skills |
| 2.4 Working memory is where information that is being actively processed is held, but its capacity is limited and can be overloaded. | Educational Theory | **English:** Understanding thedifferent kinds of cognitive load in writing (e.g. letter formation, spelling patterns, sentence construction) and how these make varied demands on young writers  Understanding the “Simple view of reading” and the cognitive demands of decoding and text comprehension  **Mathematics:**  **Science:** an analysis of tricky topics and how to teach them in science  **Art:** ensuring activities are suitably paced and scaffolded  **Computing:**  **Design and Technology:**  **Humanities:** Identify key elements of topics that need to focus on i.e. web pages with age-appropriate levels of information.  **Modern Languages:** Understanding ‘little and often’ and ‘doing a lot with a little’ in relation to vocabulary, phonics and grammar  **Music:** Structure practical music making appropriately  **PE:** Understanding the importance of well demonstrated, explained and scaffolded learning activities to support pupil learning. |  |
| **Science Pathway:**   * Scaffolded teaching to aid learning. * Accessing age appropriate resources |
| 2.5 Long-term memory can be considered as a store of knowledge that changes as pupils learn by integrating new ideas with existing knowledge. | Educational Theory | **English:** Extending pupils’ repertoire of understanding of syntactic, textual and genre conventions when performing everyday tasks of reading and writing  **Mathematics:**  **Science:** Practical hands-on experiences, with outdoor learning  **Art:** knowledge in art can be gained haptically  **Computing:** practical experiences  **Design and Technology:**  **Humanities:**  **Modern Languages:** Language learning strategies, memory  **Music:** Structure practical music making appropriately  **PE:** Allowing time for pupils to learn in PE through meaningful discussion, exploration and experimentation in pairs/small groups. |  |
| **Science Pathway:**   * Planning for progression |
| 2.6 Where prior knowledge is weak, pupils are more likely to develop misconceptions, particularly if new ideas are introduced too quickly. | Educational Theory | **English:** The importance of scaffolding pupils' learning via questioning; Barrett's taxonomy for probing pupils' understanding of texts in shared and guided contexts; activating pupils' prior knowledge; the importance of giving pupils meaningful experiences of writing and the importance of developing a wide vocabulary  **Mathematics:** Importance of 'doing' mathematics with multiple representations (visual, symbolic, discursive, etc.) for conceptual understanding. Recognising children's misconceptions and how to support children's learning. Collecting children's work and misconceptions  **Science:** Motivational approaches; Keller's ARCS model in relation to forensic science scenario. 3D models of Earth, sun and moon to represent science ideas. Misconceptions analysed throughout.  **Art:** assess pupils’ knowledge as baseline at start of each new topic  **Computing:** peer support helps with co-constructed skills and knowledge.  **Design and Technology:**  **Humanities:** Pedagogical approaches to RE introduced with the RE-searchers project. Peer teaching - Digimaps - progression in mapping skills.PE: Scaffolding pupils' learning through formative and summative assessment  **Modern Languages:** Scaffolding, graded questioning, introducing new vocabulary, grammar, phonics, target language use  **Music: S**caffold musical learning appropriately and look to build confidence  **PE:** Using pupil assessment information (diagnostic, formative & summative) and knowledge of pupils to inform pair and/or small group work activities. |  |
| **Science Pathway:**   * Planning for progression |
| 2.7 Regular purposeful practice of what has previously been taught can help consolidate material and help pupils remember what they have learned. | Educational Theory | **English:** Understanding the importance of the spiral curriculum, building on previous knowledge (e.g. rehearsing different story patterns; revisiting spelling patterns)  **Mathematics:**  **Science:** progression through ‘working scientifically’ skills.  **Art:** revisit key content/ skills – eg regular drawing practice.  **Computing:**  **Design and Technology:**  **Humanities:** When studying a variety of religions use worldview ultimate questions as a framework to address new religion.  **Modern Languages:** Introducing new vocabulary, understanding progression, retrieval practice (vocab, phonics and grammar)  **Music:** Engage in high-quality opportunities for structured practical music making – planned appropriately  **PE:** Reviewing and practising skills previously learned both within and outside of PE curriculum time. |  |
| **Science Pathway:**   * Science seminars are based in real-world problems (e.g. sustainability, STEAM projects, Nature Connection) |
| 2.8 Requiring pupils to retrieve information from memory, and spacing practice so that pupils revisit ideas after a gap are also likely to strengthen recall. | Educational Theory | **English:** Understanding the importance of spaced practice in relation to learning new letters and sounds, spelling patterns, vocabulary and grammar  **Mathematics:**  **Science:** bring in students' prior knowledge and experiences.  **Art:** n/a in art  **Computing:** n/a  **Design and Technology:** n/a  **Humanities:** Discussions on use of Knowledge organisers.  **Modern Languages:** Understanding principles of spaced practice in relation to vocab, phonics and grammar  **Music:** Develop a personal repertoire of songs and instrumental ideas and concepts  **PE:** Understanding the importance of spaced practice in relation to learning new and prior knowledge and skills. |  |
| **Science Pathway:**   * Practice of core seminar skills, weekly “check-ins”. Review of the weeks learning |
| 2.9 Worked examples that take pupils through each step of a new process are also likely to support pupils to learn. | Educational Theory | **English:** The importance of scaffolding pupils with higher level questions as they learn new sounds, spelling patterns, vocabulary and grammar. Using shared reading and writing so that pupils are able to see the strategies used by expert readers and writers.  **Mathematics:**  **Science:** an “electricity apprentice scheme”, which builds and scaffolds understanding.  **Art:** teacher modelling - supporting aspirational expectations for learning  **Computing:** writing a brief programme on Scratch.  **Design and Technology:** modelling using tools, creating and designing products.  **Humanities:** Scaffolding learning in humanities  **Modern Languages:** Scaffolding, graded questioning, introducing new vocabulary, grammar, phonics, target language  **Music:** Introduce new and exciting repertoire to foster a love of music  **PE:** Scaffolding pupils’ learning through clear and accurate demonstrations, illustrations, explanations and questions. |  |
| **Science Pathway:**   * Modelling and encouraging bold teaching in science |

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| **How Pupils Learn (Standard 2 – ‘Promote good progress’)** | |
| **Learn how to…** | **SBW** |
| **Avoid overloading working memory, by:**   * Receiving clear, consistent and effective mentoring in how to take into account pupils’ prior knowledge when planning how much new information to introduce. * Discussing and analysing with expert colleagues how to reduce distractions that take attention away from what is being taught (e.g. keeping the complexity of a task to a minimum, so that attention is focused on the content).   **And - following expert input - by taking opportunities to practise, receive feedback and improve at:**   * Breaking complex material into smaller steps (e.g. using partially completed examples to focus pupils on the specific steps).   **Build on pupils’ prior knowledge, by:**   * Discussing and analysing with expert colleagues how to sequence lessons so that pupils secure foundational knowledge before encountering more complex content. * Discussing and analysing with expert colleagues how to identify possible misconceptions and plan how to prevent these forming.   **And - following expert input - by taking opportunities to practise, receive feedback and improve at:**   * Encouraging pupils to share emerging understanding and points of confusion so that misconceptions can be addressed. * Linking what pupils already know to what is being taught (e.g. explaining how new content builds on what is already known).   **Increase likelihood of material being retained, by:**   * Observing how expert colleagues plan regular review and practice of key ideas and concepts over time (e.g. through carefully planned use of structured talk activities) and deconstructing this approach. * Discussing and analysing with expert colleagues how to design practice, generation and retrieval tasks that provide just enough support so that pupils experience a high success rate when attempting challenging work.   **And - following expert input - by taking opportunities to practise, receive feedback and improve at:**   * Balancing exposition, repetition, practice and retrieval of critical knowledge and skills. * Increasing challenge with practice and retrieval as knowledge becomes more secure (e.g. by removing scaffolding, lengthening spacing or introducing interacting elements). | Trainees use the Exeter Model training tools, in conjunction with consistent and effective mentoring from their LEAD MENTOR and REFLECTIVE MENTOR, to build on the expert input provided by the ‘Learn That…’ aspects of the curriculum to meet the ‘Learn how to…’ aspects at a pace and in a sequence that suits their individual needs. |

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| **Subject and Curriculum (Standard 3 – ‘Demonstrate good subject and curriculum knowledge’)** | | | |
| **Learn that…** | **Education and Professional Studies** | **Subject Knowledge and Pedagogy: Curriculum Studies and Pathway** | **Professional Studies** |
| 3.1 A school’s curriculum enables it to set out its vision for the knowledge, skills and values that its pupils will learn, encompassing the national curriculum within a coherent wider vision for successful learning. | Purpose of Education  Curriculum Design | **English:** Secure subject knowledge of English including phonics, grammar and spelling. Reading, writing and speaking and listening are positioned as meaning making activities in which pupils have the opportunity to discover more about themselves and the wider world  **Mathematics:** Secure subject knowledge NC  **Science:** Secure subject knowledge: plants, animals including humans, living things and their habitats, evolution and inheritance and ecosystems. The above is used to explore science as a habit of mind, and the pedagogy of science education. The educational theorist John Dewey and his ‘naturalist’ view of education is discussed in relation to lectures and workshops  **Art:** creating a rich and diverse curriculum, acknowledging scope of the subject, with suitable continuity and progression  **Computing:** a clear vision for what computing can be, following the curriculum aims.  **Design and Technology:** a vision of what DT can be following the curriculum aims.  **Humanities:** National curriculum for Geography and History. Locally agreed syllabus for RE – Devon.  **Modern Languages:** The National Curriculum in ML  **Music:** Promote a shared vision for musical learning across the house tour  **PE:** Secure subject knowledge and curriculum knowledge of PE including dance, games and gymnastic activities. |  |
| **Science Pathway:**   * The National Curriculum * Trends in current national science education |
| 3.2 Secure subject knowledge helps teachers to motivate pupils and teach effectively. | Child Development  Educational Theory | **Pre-course audits and action plans for all curriculum subjects.**  **English:** Planning for peer teaching of grammar subject knowledge; peer teaching and planning of SSP. Use of children’s literature that motivates and encourages children to read and write for pleasure  **Mathematics**: Planning for peer group – e.g. long division.  **Science:** Highlighting chemical areas of NC (everyday materials, particle theory, states of matter, periodic table) and students' own SK to teach it effectively  **Art:** Enhancing subject knowledge through practical explorations and examining artists’ work  **Computing:**  **Design and Technology:**  **Humanities:** Examining NC to discover subject knowledge necessary for each KS. Subject knowledge RE panel of experts to model developing subject knowledge. RE- searchers - pedagogical approaches to SK.Peer teaching - with one religion deeper examination of that providing skills for how to develop greater SK, modelling historical enquiry for discovering SK. Stone age to iron age as a focus as this is often identified as a key area with limited SK in trainees  **Modern Languages:** Modelling confidence and curiosity about ML  **Music:** Develop confidence to teach music in a structured, developmental way  **PE:** Enhancing subject knowledge in PE through collaborative learning in pairs/group work and demonstrations and modelling. |  |
| **Science Pathway:**   * Initial Needs Analysis and subject knowledge target setting * Curriculum input in pathway seminars |
| 3.3 Ensuring pupils master foundational concepts and knowledge before moving on is likely to build pupils’ confidence and help them succeed. | Curriculum Design  Educational Theory | **English:** The importance of secure knowledge of SSP so that pupils can read and write fluently and independently and with enjoyment  **Mathematics:** Sharing and experiencing different calculation strategies, using multiple representations to secure conceptual and procedural understanding for number operations  **Science:** learning about space in increasing complexity, with night and day proceeding seasons for example.  **Art:**  - eg encouraging regular drawing practice and use of key vocab/ concepts  **Computing:** building on prior knowledge.  **Design and Technology:** building on prior knowledge.  **Humanities:** Revisiting key concepts – e.g. time, place, community.  **Modern Languages:** The NC for KS2, subject knowledge auditing, action plan for SK  **Music:** Develop subject knowledge for music teaching and engage with the four key areas of music (listening, appraising, composing and performing). Develop confidence and understanding of the inter-related dimensions of music (pitch, duration, dynamics, tempo, timbre, texture, structure and appropriate musical notations  **PE:** Encouraging pupils to regularly practice and use key PE vocabulary/terminology |  |
| **Science Pathway:**   * Pedagogical approaches to teaching: Enquiry approach, Re-Searchers etc. * Teaching about culture/worldviews |
| 3.4 Anticipating common misconceptions within particular subjects is also an important aspect of curricular knowledge; working closely with colleagues to develop an understanding of likely misconceptions is valuable. | Educational Theory | **English:** Peer teaching and planning of SSP and grammar, during which episodes trainees are given both oral and written feedback on their pedagogical and content knowledge  **Mathematics:** lesson/episode planning including considering misconceptions  **Science:** lecture specifically on misconceptions, with this addressed recursively  **Art:** providing time for discussion and aiming to anticipate pupil difficulties  **Computing:** discussing computing misconceptions.  **Design and Technology:** addressing misconceptions.  **Humanities:** Identifying potential misconceptions i.e. chronology.  **Modern Languages:** Pedagogical approaches to teaching: listening, speaking, reading, writing, language learning strategies, grammar, teaching about culture  **Music:** Understand common misconceptions in musical learning and how best to address these.  **PE:** Discussing common misconceptions in PE and school sport and how to address them. |  |
| **Science Pathway:**   * Addressing misconceptions * Pedagogical approaches to teaching: scientific enquiry |
| 3.5 Explicitly teaching pupils the knowledge and skills they need to succeed within particular subject areas is beneficial. | Educational Theory  Curriculum Design | **English:** Teaching of higher order thinking skills and questioning in reading (Barrett’s taxonomy). Providing contextualised reading and writing activities.  **Mathematics:** Undertaking mathematically rich problem solving, undertaking using and applying mathematics (measurement, algebra); moreproblem solving in ratio/proportions  **Science:** Analysis of distinct types of scientific enquiry.  **Art:** teacher modelling of techniques, critical appraisal etc.  **Computing:** direct participation in computational activities.  **Design and Technology:** teacher modelling techniques and use of equipment.  **Humanities:** Undertaking enquiries to answer authentic historical, geographical or religious questions.  **Modern Languages:** Language learning strategies, cognitive load  **Music:** Build on successes and ensure progression in learning  **PE:** Teacher demonstrations and modelling of skills and techniques. |  |
| **Science Pathway:**   * Use of scientific equipment and models |
| 3.6 In order for pupils to think critically, they must have a secure understanding of knowledge within the subject area they are being asked to think critically about. | Educational Theory | **English:** Critical reading at text and sentence level; using grammatical features (e.g. use of the passive voice) to examine bias  **Mathematics:**  **Science:** an examination of the principles of light, then enquiring how we can explore these. Enquiries often lead to critical questions which can precede knowledge, and consequently motivate further learning (“why do I go faster down the slide in my puddlesuit?”)  **Art:** considering appropriate scaffolding – eg to support vocab/ concept knowledge  **Computing:** this subject lends itself to a more 'spiral’ approach to this.  **Design and Technology:** solving practical problems through critical questioning and trialling designs.  **Humanities:** Questioning sources – reliability, bias etc.  **Modern Languages:**  **Music:** Encourage children to question, work critically and creatively explore in a safe environment  **PE:** Teacher demonstration and modelling of how to think critically in an activity where subject knowledge is secure. |  |
| **Science Pathway:**   * Key scientific knowledge and conceptual understanding |
| 3.7 In all subject areas, pupils learn new ideas by linking those ideas to existing knowledge, organising this knowledge into increasingly complex mental models (or “schemata”); carefully sequencing teaching to facilitate this process is important. | Educational Theory | **English:** Modelling of the planning process, from individual lesson plans to longer sequences of work, and identifying learners’ outcomes  **Mathematics:**  **Science:** building on prior experience, culture, and knowledge. Seeing the interconnections from sub-atomic to celestial. Promote intellectual curiosity.  **Art:** making connections is central to thinking like an artist  **Computing:** emergent and interconnected curriculum activities.  **Design and Technology:**  **Humanities:** Developing skills in Humanities to identify what knowledge is needed/desired in a new topic. Cross-curricular approaches to humanities  **Modern Languages:**  **Music:** Foster a rich and vibrant curriculum to promote a love of music  **PE:** Making connections between PE activities (e.g. dance, games, gymnastics) and between PE and other curriculum subjects (e.g. Science, MFL). |  |
| **Science Pathway:**   * Curriculum content & design * Planning for progression |
| 3.8 Pupils are likely to struggle to transfer what has been learnt in one discipline to a new or unfamiliar context. | Child Development  Educational Theory | **English:** Opportunities to plan for cross-curricular English using high-quality children’s literature  **Mathematics:**  **Science:** revising and re-learning scientific concepts, relevant for primary education, with links to real-life issues.  **Art:** art can act as a useful vehicle for trandisciplinary learning – e.g. cross-curr links  **Computing:** emergent and interconnected curriculum activities.  **Design and Technology:** cross curricular links e.g. science.  **Humanities:** Cross-curricular session to transfer skills – enquiry approach.  **Modern Languages:**  **Music:** Develop links with other areas of the curriculum such as mathematics and humanity  **PE:** Opportunities for interdisciplinary planning, teaching and learning between PE and Science (e.g. structure & function of the body systems). |  |
| **Science Pathway:**   * Importance of interdisciplinary practice * Key concepts act as grounding for pupils’ learning. * Planning for progression |
| 3.9 To access the curriculum, early literacy provides fundamental knowledge; reading comprises two elements: word reading and language comprehension; systematic synthetic phonics is the most effective approach for teaching pupils to decode. | Educational Theory  Child Development | **English:** Secure subject knowledge of Systematic Synthetic Phonics; secure subject knowledge of grammar terminology; the importance of accurate pronunciation of phonemes; correct modelling of Standard English in shared and guided writing inputs; a deep understanding of how readers comprehend text; an understanding of the role of audience, purpose and genre in writing. An introduction to the use of decodable texts for early readers.  **Mathematics:**  **Science:**  **Art:** n/a  **Computing:**  **Design and Technology:**  **Humanities:**  **Modern Languages:** Phonics in ML  **Music:**  **PE:** |  |
| **Science Pathway:**   * Dialogic learning and practice in science |
| 3.10 Every teacher can improve pupils’ literacy, including by explicitly teaching reading, writing and oral language skills specific to individual disciplines. |  | **English:** Consistent modelling of Standard English and high-quality interactions with learners; taking opportunities to model to learners the thinking and decision-making processes involved in reading and writing across the curriculum  **Mathematics:** Reflecting the use of language in mathematics teaching  **Science:** discussion and peer dialogue to facilitate a co-constructed understanding.  **Art:** eg. talking about art is central to learning in the subject  **Computing:**  **Design and Technology:**  **Humanities:**  **Modern Languages:** Grammatical terminology, language learning strategies for reading, writing, listening and speaking  **Music:**  **PE:** Developing pupils’ reading, writing, reading and listening skills through pair/small group work tasks and homework tasks. |  |
| **Science Pathway:**   * Dialogic learning and practice in science |

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| **Subject and Curriculum (Standard 3 – ‘Demonstrate good subject and curriculum knowledge’)** | |
| **Learn how to…** | **SBW** |
| **Deliver a carefully sequenced and coherent curriculum, by:**   * Receiving clear, consistent and effective mentoring in how to identify essential concepts, knowledge, skills and principles of the subject. * Observing how expert colleagues ensure pupils’ thinking is focused on key ideas within the subject and deconstructing this approach. * Discussing and analysing with expert colleagues the rationale for curriculum choices, the process for arriving at current curriculum choices and how the school’s curriculum materials inform lesson preparation.   **And - following expert input - by taking opportunities to practise, receive feedback and improve at:**   * Providing opportunity for all pupils to learn and master essential concepts, knowledge, skills and principles of the subject. * Working with expert colleagues to accumulate and refine a collection of powerful analogies, illustrations, examples, explanations and demonstrations. * Using resources and materials aligned with the school curriculum (e.g. textbooks or shared resources designed by expert colleagues that carefully sequence content). * Being aware of common misconceptions and discussing with expert colleagues how to help pupils master important concepts.   **Support pupils to build increasingly complex mental models, by:**   * Discussing and analysing with expert colleagues how to revisit the big ideas of the subject over time and teach key concepts through a range of examples. * Discussing and analysing with expert colleagues how they balance exposition, repetition, practice of critical skills and knowledge.   **And - following expert input - by taking opportunities to practise, receive feedback and improve at:**   * Drawing explicit links between new content and the core concepts and principles in the subject.   **Develop fluency, by:**   * Observing how expert colleagues use retrieval and spaced practice to build automatic recall of key knowledge and deconstructing this approach.   **And - following expert input - by taking opportunities to practise, receive feedback and improve at:**   * Providing tasks that support pupils to learn key ideas securely (e.g. quizzing pupils so they develop fluency with times tables).   **Help pupils apply knowledge and skills to other contexts, by:**   * Observing how expert colleagues interleave concrete and abstract examples, slowly withdrawing concrete examples and drawing attention to the underlying structure of problems and deconstructing this approach.   **And - following expert input - by taking opportunities to practise, receive feedback and improve at:**   * Ensuring pupils have relevant domain-specific knowledge, especially when being asked to think critically within a subject.   **Develop pupils’ literacy, by:**   * Observing how expert colleagues demonstrate a clear understanding of systematic synthetic phonics, particularly if teaching early reading and spelling, and deconstructing this approach. * Discussing and analysing with expert colleagues how to support younger pupils to become fluent readers and to write fluently and legibly. * Receiving clear, consistent and effective mentoring in how to model reading comprehension by asking questions, making predictions, and summarising when reading. * Receiving clear, consistent and effective mentoring in how to promote reading for pleasure (e.g. by using a range of whole class reading approaches and regularly reading high-quality texts to children). * Discussing and analysing with expert colleagues how to teach different forms of writing by modelling planning, drafting and editing.   **And - following expert input - by taking opportunities to practise, receive feedback and improve at:**   * Teaching unfamiliar vocabulary explicitly and planning for pupils to be repeatedly exposed to high-utility and high-frequency vocabulary in what is taught. * Modelling and requiring high-quality oral language, recognising that spoken language underpins the development of reading and writing (e.g. requiring pupils to respond to questions in full sentences, making use of relevant technical vocabulary). | Trainees use the Exeter Model training tools, in conjunction with consistent and effective mentoring from their LEAD MENTOR and REFLECTIVE MENTOR, to build on the expert input provided by the ‘Learn That…’ aspects of the curriculum to meet the ‘Learn how to…’ aspects at a pace and in a sequence that suits their individual needs.  *ML Framework Task*  *PE Framework Task*  *Mathematics Framework Task* |

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| **Classroom Practice (Standard 4 – ‘Plan and teach well-structured lessons’)** | | | |
| **Learn that…** | **Education and Professional Studies** | **Subject Knowledge and Pedagogy: Curriculum Studies and Pathway** | **Professional Studies** |
| 4.1 Effective teaching can transform pupils’ knowledge, capabilities and beliefs about learning. | Educational Theory  Curriculum Design  Child Development | **English:** Planning as an iterative and recursive process with reflection at its core, planning creatively for pupil progress using CLPE guidelines and our SSP scheme of work  **Mathematics:** Designing learning activities and devising key questions to ask during lessons  **Science:** Planning to facilitate children working scientifically and how they learn to become independent young scientists  **Art:** effective teaching is underpinned by good subject, pedagogical and curriculum knowledge  **Computing:**  **Design and Technology:**  **Humanities:** Understanding of worldviews and impact of these on learning and definitions of knowledge.  **Modern Languages:** Planning models; PPP and MMM (moving learners from dependence towards independence  **Music:** Promote a love and curiosity of music by exploring performing, listening, reviewing and evaluating. Understand and explore how music is created, produced and communicated. Explore cross-curricular links between music and other areas of the curriculum  **PE:** Strong teacher subject knowledge facilitates effective teaching and pupils’ learning in PE. | **Purpose of Education** - Curriculum |
| **Science Pathway:**   * Planning for science – and evaluating collaboratively * Using stories, drama, artefacts, experiments, equipment, puppets, play |
| 4.2 Effective teachers introduce new material in steps, explicitly linking new ideas to what has been previously studied and learned. | Educational Theory | **English:** Weekly planning, peer teaching and evaluating episodes of Systematic Synthetic Phonics; planning for guided and shared reading at KS1/2; planning for guided and shared writing at 1KS1/2. Reading assessment task,peer teaching of grammar subject knowledge  **Mathematics:** Weekly planning for place value, subtraction, multiplication and divisions in KS1/2, discussing resources/textbooks and planning schemes used in schools  **Science:** How to plan and deliver forensics lesson, reflection on statutory frameworks, including the NC  **Art:** teacher demos are essential to effective art teaching  **Computing:**  **Design and Technology:** scaffolded teaching essential  **Humanities:** Peer teaching of one religion - careful planning and structure of the lesson, discussing planning P4C lessons. Peer teaching using Digimaps - discuss progression in mapping skills and use in school environment  **Modern Languages:** Effective sequencing  **Music:** Foster learning links and webs throughout practical music making  **PE:** Using teacher demonstrations and modelling and collaborative/peer teaching in pairs and/or small group work. |  |
| **Science Pathway:**   * Progression in scientific enquiry * planning peer teaching * progression in science * the role of the subject lead |
| 4.3 Modelling helps pupils understand new processes and ideas; good models make abstract ideas concrete and accessible. | Educational Theory | **English:** Metacognitive scripts that teachers employ when teaching shared and guided reading and writing; promoting reading and writing as meaning making activities  **Mathematics:**  **Science:** Modelling in space, analogies in electricity, lecture on children’s learning – from concrete to abstract.  **Art:** (as 4.2)  **Computing: s**tarting with Scratch as a programming platform  **Design and Technology:** Modelling as 4.2  **Humanities:** Enquiry model for learning.  **Modern Languages:** Planning models; PPP and MMM (moving learners from dependence towards independence)  **Music:** Confidently model music making and promote a deep interest and love of the subject  **PE:** Using concise and precise teacher demonstrations and modelling to enhance pupil understandings in PE. |  |
| **Science Pathway:**   * using models in science to make sense of abstract and conceptual (e.g. the climate crisis) |
| 4.4 Guides, scaffolds and worked examples can help pupils apply new ideas, but should be gradually removed as pupil expertise increases. | Educational Theory | **English:** Use of CLPE lesson plans from high-quality children’s literature as models to inspire independent lesson planning  **Mathematics:**  **Science: use of models and practical experience. Learning through enquiry.**  **Art:** no – in art visual exemplification and modelling is always important  **Computing:**  **Design and Technology:** use of worked examples  **Humanities:** Planning a sequence of geography lessons on river source to sea - accounting for progression of pupils' understanding  **Modern Languages:** Planning models; PPP and MMM (moving learners from dependence towards independence)  **Music:** Model confidently for the children and allow time and space for creativity and exploration in sound  **PE:** Using scaffolded activities, accurate teacher demonstrations and other visual illustrations are crucial in introducing new PE knowledge, skills and ideas to pupils. |  |
| **Science Pathway:**   * Progression in scaffolded learning: e.g. teacher directed to more pupil directed – and that this can be reversed when necessary. |
| 4.5 Explicitly teaching pupils metacognitive strategies linked to subject knowledge, including how to plan, monitor and evaluate, supports independence and academic success. | Educational Theory  Curriculum design | **English:** The importance of the metacognitive commentary to explain writing choices that teachers use when modelling writing (shared, guided) in front of pupils  **Mathematics:**  **Science:** evaluation session at the end of seminars. Live discussions of conceptual science  **Art:** importance of thinking aloud and teacher modelling of vocab etc.  **Computing:**  **Design and Technology:** evaluating design  **Humanities:**  **Modern Languages: L**anguage learning strategies  **Music:** Encourage children to evaluate and review all aspects of their music making  **PE:** Encouraging pupils to plan, perform and critically evaluate their own and others’ performances/work in PE. | **Learning** -Assessment for Learning |
| **Science Pathway:**   * How pupils learn in science * Planning – sequences of lessons, curriculum design. * Assessment of ‘working scientifically’ skills |
| 4.6 Questioning is an essential tool for teachers; questions can be used for many purposes, including to check pupils’ prior knowledge, assess understanding and break down problems. | Educational Theory | **English:** Use of Barrett’s taxonomy (e.g. shared and guided reading) to develop higher order questioning skills  **Mathematics:**  **Science:** Using children’ questions in science (a “buzz board”). Science enquiry. Science lecture on questioning.  **Art:** formative assessment requires sensitive and thoughtful teacher questioning  **Computing:** active AfL, reflection in action.  **Design and Technology:** questioning effective design  **Humanities:** Effective questioning in the enquiry process  **Modern Languages:** Effective graded questioning  **Music:** Promote high-quality questioning during practical music making to develop deeper concepts and understanding  **PE:** Planning and posing questions carefully and sensitively to assess pupils’ knowledge and understandings. | **Learning** - Assessment for Learning |
| **Science Pathway:**   * Building on core science lecture – application to school based work |
| 4.7 High-quality classroom talk can support pupils to articulate key ideas, consolidate understanding and extend their vocabulary. | Educational Theory  Adaptive teaching | **English:** High-quality classroom interaction is modelled in all sessions. The importance of oracy as a foundational skill. Critically examining the traditional IRF model of classroom interaction  **Mathematics:** partner talk to aid understanding  **Science:**  opportunities to talk through ideas and consolidate understanding, with a focus on sound questioning modelling oracy skills.  **Art:** discussing artworks and ideas is key to learning in the subject  **Computing:**  **Design and Technology:**  **Humanities:** Discussions in philosophy for Children P4C session  **Modern Languages:** Modelling scaffolded group and paired talk  **Music:** Foster high quality opportunities for talk for learning in all aspects of practical music making.  **PE:** Promoting discussion in PE is important for pupil learning. |  |
| **Science Pathway:**   * Dialogic learning and practice in science * Paired and group talk in different settings * Developing meaningful, exploratory talk |
| 4.8 Practice is an integral part of effective teaching; ensuring pupils have repeated opportunities to practise, with appropriate guidance and support, increases success. | Educational Theory | **English:**  **Mathematics:**  **Science:** practical experience and practice, for instance using electrical circuits.  **Art:** eg. hands-on activities are essential for haptic learning  **Computing: n/a**  **Design and Technology:**  **Humanities:**  **Modern Languages:** Planning models (PPP and MMM)  **Music:** Encourage practice and perseverance with performance and composition  **PE:** Practice is crucial for successful pupil learning in PE, especially practising in pairs and/or small groups. |  |
| **Science Pathway:**  Modelling and development of scientific practices, values and behaviours. |
| 4.9 Paired and group activities can increase pupil success, but to work together effectively pupils need guidance, support and practice. | Educational Theory  Adaptive teaching | **English:**  **Mathematics:**  **Science:** Peer teaching (human body) and peer learning (all sessions)  **Art:** art making is not only an individual activity - collaborative creativity is to be encouraged  **Computing:**  **Design and Technology:**  **Humanities:** Group work modelled in enquiry process  **Modern Languages:** Modelling group and paired speaking, scaffolding  **Music:** Foster collaboration in the making  **PE:** Teacher demonstration and modelling of paired and/or small group tasks is crucial to pupil success. |  |
| **Science Pathway:**   * Dialogic learning and practice in science * Group and paired work |
| 4.10 How pupils are grouped is also important; care should be taken to monitor the impact of groupings on pupil attainment, behaviour and motivation. | Educational Theory  Adaptive teaching | **English:** Developing an understanding of the role of groupings in the teaching of English  **Mathematics:**  **Science:** discussion on ‘ability’ groups in science.  **Art:** behavioural considerations are important eg. re. health and safety  **Computing:**  **Design and Technology:**  **Humanities:** Group work in enquiry process  **Modern Languages:**  **Music:** Foster collaboration in the making  **PE:** Developing an understanding of the purpose, role and practical application of group work in the teaching of PE. |  |
| **Science Pathway:**   * Dialogic learning and practice in science * Group and paired work |
| 4.11 Homework can improve pupil outcomes, particularly for older pupils, but it is likely that the quality of homework and its relevance to main class teaching is more important than the amount set. | Educational Theory | **English:** Develop an understanding of the role of parents in supporting pupils as they learn to read and write  **Mathematics:**  **Science:** the importance of engaging with parents, carers and community.  **Art:** eg. sketchbooks activities can be completed at home  **Computing:**  **Design and Technology:**  **Humanities:**  **Modern Languages:**  **Music:**  **PE:** Encouraging meaningful homework tasks for pupils in PE (e.g. reflective tasks) and understanding the role of parents in supporting pupil learning in PE. |  |
| **Science Pathway:**  Resources for science |

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| **Classroom Practice (Standard 4 – ‘Plan and teach well-structured lessons’)** | |
| **Learn how to…** | **SBW** |
| **Plan effective lessons, by:**   * Observing how expert colleagues break tasks down into constituent components when first setting up independent practice (e.g., using tasks that scaffold pupils through meta-cognitive and procedural processes) and deconstructing this approach.   **And - following expert input - by taking opportunities to practise, receive feedback and improve at:**   * Using modelling, explanations, and scaffolds, acknowledging that novices need more structure early in a domain. * Enabling critical thinking and problem solving by first teaching the necessary foundational content knowledge. * Removing scaffolding only when pupils are achieving a high degree of success in applying previously taught material. * Providing sufficient opportunity for pupils to consolidate and practise applying new knowledge and skills.   **Make good use of expositions, by:**   * Discussing and analysing with expert colleagues how to use concrete representation of abstract ideas (e.g. making use of analogies, metaphors, examples and non-examples).   **And - following expert input - by taking opportunities to practise, receive feedback and improve at:**   * Starting expositions at the point of current pupil understanding. * Combining a verbal explanation with a relevant graphical representation of the same concept or process, where appropriate.   **Model effectively, by:**   * Discussing and analysing with expert colleagues how to make the steps in a process memorable and ensuring pupils can recall them (e.g. naming them, developing mnemonics, or linking to memorable stories).   **And - following expert input - by taking opportunities to practise, receive feedback and improve at:**   * Narrating thought processes when modelling to make explicit how experts think (e.g. asking questions aloud that pupils should consider when working independently and drawing pupils’ attention to links with prior knowledge). * Exposing potential pitfalls and explaining how to avoid them.   **Stimulate pupil thinking and check for understanding, by:**   * Discussing and analysing with expert colleagues how to consider the factors that will support effective collaborative or paired work (e.g. familiarity with routines, whether pupils have the necessary prior knowledge and how pupils are grouped). * Receiving clear, consistent and effective mentoring in how to provide scaffolds for pupil talk to increase the focus and rigour of dialogue.   **And - following expert input - by taking opportunities to practise, receive feedback and improve at:**   * Planning activities around what you want pupils to think hard about. * Including a range of types of questions in class discussions to extend and challenge pupils (e.g. by modelling new vocabulary or asking pupils to justify answers). * Providing appropriate wait time between question and response where more developed responses are required. | Trainees use the Exeter Model training tools, in conjunction with consistent and effective mentoring from their LEAD MENTOR and REFLECTIVE MENTOR, to build on the expert input provided by the ‘Learn That…’ aspects of the curriculum to meet the ‘Learn how to…’ aspects at a pace and in a sequence that suits their individual needs.  *Challenging the Gap Framework Task*  *ML Framework Task*  *PE Framework Task*  *Mathematics Framework Task* |

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| **Adaptive Teaching (Standard 5 – ‘Adapt teaching’)** | | | |
| **Learn that…** | **Education and Professional Studies** | **Subject Knowledge and Pedagogy: Curriculum Studies and Pathway** | **Professional Studies** |
| 5.1 Pupils are likely to learn at different rates and to require different levels and types of support from teachers to succeed. | Child Development  SEND  EAL  Addressing issues of gender and social inequality  Preparing to teach pupils from all backgrounds  Seminar Day 3 - ‘Adaptive Teaching’ | **English:** Inclusive pedagogy modelled through rich and diverse literacy environments, including provision of human and non-human resources (including Mantra Lingua, Barrington Stoke, Tamarind Books).  **Mathematics:** Inclusive practiced modelled in mathematics sessions by differentiating activities. Information provided for mathematics teaching for various educational needs  **Science:** Peer teaching to support all abilities  **Art**: eg. practical considerations highlighted in demonstrations  **Computing:**  **Design and Technology:**  **Humanities:** Inclusive practice modelled in geography sessions on world connections and prior knowledge. ‘Adapting to all pupils’ thread throughout the module with easily accessible resources and engaging interactive activities employed  **Modern Languages:** ML inclusive pedagogy, language learning theory  **Music:** Encourage children to explore the musical world around them  **PE:** Inclusive practices modelled in PE. | Adaptation To Needs and Contexts: Policies for Meeting Individual Needs |
| **Science Pathway:**   * Adaptive teaching in science * Inclusive practice |
| 5.2 Seeking to understand pupils’ differences, including their different levels of prior knowledge and potential barriers to learning, is an essential part of teaching. | Child Development  SEND  EAL  Addressing issues of gender and social inequality  Preparing to teach pupils from all backgrounds  Seminar Day 3 - ‘Adaptive Teaching’ | **English:** Reading assessment task: reflecting on the importance of pitching books to pupils' instruction level of reading  **Mathematics:** Investigating pupils' misconceptions in maths, discussions how to support learning of mathematics for particular needs  **Science:** individual confidences self-assessed in audit & action plan. Lesson build on prior knowledge.  **Art:** individual interests and capabilities should be carefully considered  **Computing:**  **Design and Technology:**  **Humanities:** Assessing pupil’s prior knowledge, ethno-knowledge, and building on this within humanities, enabling access to all regardless of background.  **Modern Languages:** Understanding barriers to learning in ML  **Music:** Explore how to differentiate appropriately, using approaches which enable all pupils to be taught music effectively  **PE:** Understanding and celebrating individual pupil interests, differences and capabilities. | Adaptation To Needs and Contexts: Policies for Meeting Individual Needs |
| **Science Pathway:**   * Use of work of scientists from multiple backgrounds * Understanding barriers to learning in science: including misconceptions, stereotypes and myths. |
| 5.3 Adapting teaching in a responsive way, including by providing targeted support to pupils who are struggling, is likely to increase pupil success. | Child Development  SEND  EAL  Addressing issues of gender and social inequality  Preparing to teach pupils from all backgrounds  Seminar Day 3 - ‘Adaptive Teaching’ | **English:** Adapting lessons ‘in the moment’ in order to respond to pupils’ misconceptions or developmental need  **Mathematics:** Adapting lessons to respond to pupils’ needs  **Science:** Inclusive education demonstrated in practical situations  **Art:** teacher observation is central to adaptive and responsive teaching  **Computing:**  **Design and Technology:**  **Humanities:** Adapting lessons to support and challenge learners  **Modern Languages:** Adapting lessons to support and challenge learners  **Music:** Promote inclusive practical work  **PE:** Adapting lessons to support and challenge learners. | Adaptation To Needs and Contexts: Policies for Meeting Individual Needs |
| **Science Pathway:**   * Understanding flexible teaching and targeted support in science * Creative approaches to assessment |
| 5.4 Adaptive teaching is less likely to be valuable if it causes the teacher to artificially create distinct tasks for different groups of pupils or to set lower expectations for particular pupils. | Child Development  SEND  EAL  Addressing issues of gender and social inequality  Preparing to teach pupils from all backgrounds  Seminar Day 3 - ‘Adaptive Teaching’ | **English:** Ensuring that teacher modelling and scaffolding is linked to pupils’ need  **Mathematics:**  **Science:** modelling AfL and setting challenges where needed.  **Art:** adaptation is more likely to be by expectations of outcome **-** eg use of levels of challenge: must, should, could  **Computing:** differentiated by outcome  **Design and Technology:**  **Humanities:** Reflect on practice - what the trainees have seen and examples of good practice shared in each group  **Modern Languages:** scaffolding in ML  **Music:** Allow children to work independently and creatively  **PE:** Ensuring that teacher demonstrations and modelling and scaffolding of pupil activities meet pupil needs. | Adaptation To Needs and Contexts: Policies For Meeting Individual Needs |
| **Science Pathway:**   * Adaptive teaching, scaffolding |
| 5.5 Flexibly grouping pupils within a class to provide more tailored support can be effective, but care should be taken to monitor its impact on engagement and motivation, particularly for low attaining pupils. | Child Development  SEND  EAL  Addressing issues of gender and social inequality  Preparing to teach pupils from all backgrounds  Seminar Day 3 - ‘Adaptive Teaching’ | **English:**  **Mathematics:**  **Science:**  **Art:** pupil groupings can be made for various reasons – should be flexible  **Computing:**  **Design and Technology:**  **Humanities:**  **Modern Languages:**  **Music:** Plan for a variety of grouping for learning during practical music  **PE:** Ensuring that pupils are grouped in PE according to their diverse needs and interests and no more than 4 in each group. | Adaptation To Needs and Contexts: Policies for Meeting Individual Needs |
| **Science Pathway:**   * Looking at teaching and assessment more creatively – how to teach and assess skills effectively |
| 5.6 There is a common misconception that pupils have distinct and identifiable learning styles. This is not supported by evidence and attempting to tailor lessons to learning styles is unlikely to be beneficial. | Child Development  Educational Theory  SEND  EAL  Addressing issues of gender and social inequality  Preparing to teach pupils from all backgrounds  Seminar Day 3 - ‘Adaptive Teaching’ | **English:** Critically examining the myth of learning styles  **Mathematics:**  **Science:** modelling multi-modal methods.  **Art:** eg.the visual domain is powerful in communication, not only in art  **Computing:**  **Design and Technology:**  **Humanities:**  **Modern Languages:** oracy, literacy  **Music:** Explore and address misconceptions throughout practical work  **PE:** Critically discussing and debating learning styles. | Adaptation To Needs and Contexts: Policies for Meeting Individual Needs |
| **Science Pathway:**   * Pedagogical approaches to science |
| 5.7 Pupils with special educational needs or disabilities are likely to require additional or adapted support; working closely with colleagues, families and pupils to understand barriers and identify effective strategies is essential. | Child Development  SEND  EAL  Addressing issues of gender and social inequality  Preparing to teach pupils from all backgrounds  Seminar Day 3 - ‘Adaptive Teaching’ | **English:** Adapting pedagogy according to pupils’ needs. Collaboration with parents and other agencies where necessary to set long-term goals and expectations  **Mathematics:**  **Science:**  **Art:** consideration should always be made of pupils’ needs  **Computing:**  **Design and Technology:**  **Humanities:**  **Modern Languages:**  **Music:** Promote inclusive practical work for all children  **PE:** Adapting teaching to individual pupil needs in PE. | Adaptation To Needs and Contexts: Policies for Meeting Individual Needs |
| **Science Pathway:**   * Adaptive teaching |

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| **Adaptive Teaching (Standard 5 – ‘Adapt teaching’)** | |
| **Learn how to…** | **SBW** |
| **Develop an understanding of different pupil needs, by:**   * Receiving clear, consistent and effective mentoring in supporting pupils with a range of additional needs, including how to use the SEND Code of Practice, which provides additional guidance on supporting pupils with SEND effectively.   **And - following expert input - by taking opportunities to practise, receive feedback and improve at:**   * Identifying pupils who need new content further broken down. * Making use of formative assessment. * Working closely with the Special Educational Needs Co-ordinator (SENCO) and special education professionals and the Designated Safeguarding Lead (DSL) under supervision of expert colleagues.   **Provide opportunity for all pupils to experience success, by:**   * Observing how expert colleagues adapt lessons, whilst maintaining high expectations for all, so that all pupils have the opportunity to meet expectations and deconstructing this approach. * Discussing and analysing with expert colleagues how to balance input of new content so that pupils master important concepts.   **And - following expert input - by taking opportunities to practise, receive feedback and improve at:**   * Making effective use of teaching assistants and other adults in the classroom under supervision of expert colleagues. * Meet individual needs without creating unnecessary workload, by: * Discussing and analysing with expert colleagues how they decide whether intervening within lessons with individuals and small groups would be more efficient and effective than planning different lessons for different groups of pupils.   **And - following expert input - by taking opportunities to practise, receive feedback and improve at:**   * Making use of well-designed resources (e.g. textbooks). * Planning to connect new content with pupils' existing knowledge or providing additional pre-teaching if pupils lack critical knowledge * Building in additional practice or removing unnecessary expositions. * Reframing questions to provide greater scaffolding or greater stretch.   **Group pupils effectively, by:**   * Discussing and analysing with expert colleagues how the placement school changes groups regularly, avoiding the perception that groups are fixed. * Discussing and analysing with expert colleagues how the placement school ensures that any groups based on attainment are subject specific.   **And - following expert input - by taking opportunities to practise, receive feedback and improve at:**   * Applying high expectations to all groups, and ensuring all pupils have access to a rich curriculum. | Trainees use the Exeter Model training tools, in conjunction with consistent and effective mentoring from their LEAD MENTOR and REFLECTIVE MENTOR, to build on the expert input provided by the ‘Learn That…’ aspects of the curriculum to meet the ‘Learn how to…’ aspects at a pace and in a sequence that suits their individual needs.  *Challenging the Gap Framework Task*  *SEND Framework Task*  *EAL Framework Task* |

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| **Assessment (Standard 6 – ‘Make accurate and productive use of assessment’)** | | | |
| **Learn that…** | **Education and Professional Studies** | **Subject Knowledge and Pedagogy: Curriculum Studies and Pathway** | **Professional Studies** |
| 6.1 Effective assessment is critical to teaching because it provides teachers with information about pupils’ understanding and needs. | **Assessment** | **English:** Assessment for learning via questioning and diagnostic marking; how this feeds into planning. Understanding NC terms of assessment  **Mathematics:** Assessment for learning via questioning, analysing pupils' misconceptions, evaluating problem solving strategies  **Science:** Scientific 'buzz board' to assess children's prior knowledge and learning  **Art:** emphasis on process - formative assessment opportunities  **Computing:** AfL in practice  **Design and Technology:** importance of feedback during making/designing process.  **Humanities:** Assessment with peer teaching and examples provided  **Modern Languages:** assessing the 4 skills  **Music:** Explore the use of formative and summative assessment in music to secure pupils’ progress  **PE:** Assessment for learning and assessment of learning using formative assessment (peer assessment) and summative assessment (pre & post pupil assessment). | **Learning:** Assessment for Learning  Expectationsand Target Setting |
| **Science Pathway:**   * Assessment and planning for progression in Science * Early years/Ks1 and KS2/3 transition |
| 6.2 Good assessment helps teachers avoid being over-influenced by potentially misleading factors, such as how busy pupils appear. | **Assessment** | **English:** Use of high-quality questioning to assess pupils’ progress and suitability/pitch of activities  **Mathematics:**  **Science:** motivate using exciting and pertinent lessons and content. Assess through multiple means, for instance concept maps for Earth and Space.  **Art:** assessment in art is ongoing and supported by careful documentation  **Computing:**  **Design and Technology:**  **Humanities:** Enquiry process group work enabling all to participate.  **Modern Languages:**  **Music:** Involve the children in the assessment process and refinement and practice of ideas and concepts. Draw on AfL principles.  **PE:** Engaging pupils as well as the teachers in the assessment process (e.g. peer assessment). | **Learning:** Assessment for Learning  Expectationsand Target Setting |
| **Science Pathway:**   * planning and assessment for progression in science |
| 6.3 Before using any assessment, teachers should be clear about the decision it will be used to support and be able to justify its use. | **Assessment**  **Curriculum design** | **English:** Reading assessment task: providing reading materials which match pupils' interests, abilities and cognitive understanding  **Mathematics:**  **Science:** Assessing understanding through questioning; addressing misconceptions, checking understanding; use of concept maps  **Art:** assessment should be linked to learning intentions  **Computing:**  **Design and Technology:**  **Humanities:** Use of questioning to assess pupils understanding and reveal ethno-knowledge.  **Modern Languages:**  **Music:**  Link assessment to short and medium term planning  **PE:** Assessment in PE is always linked to the pupil learning objectives. | **Learning:** Assessment for Learning  Expectationsand Target Setting |
| **Science Pathway:**   * planning and assessment for progression in science |
| 6.4 To be of value, teachers use information from assessments to inform the decisions they make; in turn, pupils must be able to act on feedback for it to have an effect. | **Assessment** | **English:** Written and oral feedback to pupils during lessons; providing time in lessons for pupils to engage with feedback  **Mathematics:** Exploring pupils' attainments in SATs tests, effective questioning for higher order thinking in maths  **Science:** written and oral feedback – in particular for peer teaching.  **Art:** dispel myth that ‘you are either good or not good at art’ - pupils need to know how to improve through teacher, peer and self-evaluation  **Computing:**  **Design and Technology:**  **Humanities:**  **Modern Languages:**  **Music:** Encourage the children to talk about their own work and achievements in practicalwork.  **PE:** Written and oral feedback (positive & specific/corrective) to pupils during lessons and providing time for them to act on the feedback given. | **Learning:** Assessment for Learning  Expectationsand Target Setting |
| **Science Pathway:**   * planning and assessment for progression in science |
| 6.5 High-quality feedback can be written or verbal; it is likely to be accurate and clear, encourage further effort, and provide specific guidance on how to improve. | **Assessment** | **English:** Ensuring that written feedback is legible and clear; providing time in lessons for pupils to engage with feedback  **Mathematics:**  **Science:** this also includes discourse on pupils drawings, floorbooks, artwork.  **Art:** eg. purposeful dialogue in the art classroom is central to learning  **Computing:**  **Design and Technology:**  **Humanities:** marking against humanities criteria rather than purely literacy.  **Modern Languages:**  **Music:** Use innovative ways to assess practical music making. Such as video, sound recording and web-based technologies  **PE:** Dialogic feedback to pupils on their performances/work is crucial to their learning. | **Learning:** Assessment for Learning  Expectationsand Target Setting |
| **Science Pathway:**   * planning and assessment for progression in science |
| 6.6 Over time, feedback should support pupils to monitor and regulate their own learning. | **Assessment** | **English:** High-quality modelling of classroom interaction, including giving and receiving peer-to-peer feedback; providing time for this in plenaries  **Mathematics:**  **Science:**  **Art:** older pupils can take more responsibility for their learning – eg research work to inform making  **Computing:**  **Design and Technology:**  **Humanities:** questioning employed to assist pupils’ development.  **Modern Languages:** Language learning strategies  **Music:** Involve the children in our specs of the assessment process.  **PE:** Developing pupil autonomy and independence through teacher and pupil feedback. | **Learning:** Assessment for Learning  Expectationsand Target Setting |
| **Science Pathway:**   * planning and assessment for progression in science * how children learn science |
| 6.7 Working with colleagues to identify efficient approaches to assessment is important; assessment can become onerous and have a disproportionate impact on workload. | **Assessment** | **English:** Taking agency of learning about assessment; proactive participation in class/year-group moderation of pupils’ work  **Mathematics:**  **Science:** creative assessment in science, for instance using floorbooks or artwork  **Art:** expectations should be high for all learners, with consistently appropriate standards across the school (clear progression)  **Computing:**  **Design and Technology:**  **Humanities:**  **Modern Languages:**  **Music:** Ensure assessment is manageable, practical and appropriate.  **PE:** Meaningful discussions with fellow teachers about the relevance, setting, marking, feedback and moderation of pupil assessed work in PE. | **Learning:** Assessment for Learning  Expectationsand Target Setting |
| **Science Pathway:**   * Effective planning and assessment for progression in science |
| **Assessment (Standard 6 – ‘Make accurate and productive use of assessment’)** | | | |
| **Learn how to…** | | **SBW** | |
| **Avoid common assessment pitfalls, by:**   * Discussing and analysing with expert colleagues how to plan formative assessment tasks linked to lesson objectives and think ahead about what would indicate understanding (e.g. by using hinge questions to pinpoint knowledge gaps). * Discussing and analysing with expert colleagues how to choose, where possible, externally validated materials, used in controlled conditions when required to make summative assessments.   **And - following expert input - by taking opportunities to practise, receive feedback and improve at:**   * Drawing conclusions about what pupils have learned by looking at patterns of performance over a number of assessments with support and scaffolding from expert colleagues (e.g. appreciating that assessments draw inferences about learning from performance). * Check prior knowledge and understanding during lessons, by: * Receiving clear, consistent and effective mentoring in how to structure tasks and questions to enable the identification of knowledge gaps and misconceptions (e.g. by using common misconceptions within multiple-choice questions).   **And - following expert input - by taking opportunities to practise, receive feedback and improve at:**   * Using assessments to check for prior knowledge and pre-existing misconceptions. * check that a correct answer stems from secure understanding. * Monitoring pupil work during lessons, including checking for misconceptions.   **Provide high-quality feedback, by:**   * Discussing and analysing with expert colleagues how pupils’ responses to feedback can vary depending on a range of social factors (e.g. the message the feedback contains or the age of the child). * Receiving clear, consistent and effective mentoring in how to scaffold self-assessment by sharing model work with pupils, highlighting key details. * Discussing and analysing with expert colleagues how to ensure feedback is specific and helpful when using peer- or self-assessment.   **And - following expert input - by taking opportunities to practise, receive feedback and improve at:**   * Focusing on specific actions for pupils and providing time for pupils to respond to feedback. * Make marking manageable and effective, by: * Receiving clear, consistent and effective mentoring in how to record data only when it is useful for improving pupil outcomes. * Discussing and analysing with expert colleagues to develop an understanding that written marking is only one form of feedback. * Discussing and analysing with expert colleagues how to identify efficient approaches to marking and alternative approaches to providing feedback (e.g. using whole class feedback or well supported peer- and self-assessment) and deconstructing this approach.   **And - following expert input - by taking opportunities to practise, receive feedback and improve at:**   * Using verbal feedback during lessons in place of written feedback after lessons where possible. * Reducing the opportunity cost of marking (e.g. by using abbreviations and codes in written feedback). * Prioritising the highlighting of errors related to misunderstandings, rather than careless mistakes when marking. | | Trainees use the Exeter Model training tools, in conjunction with consistent and effective mentoring from their LEAD MENTOR and REFLECTIVE MENTOR, to build on the expert input provided by the ‘Learn That…’ aspects of the curriculum to meet the ‘Learn how to…’ aspects at a pace and in a sequence that suits their individual needs. | |

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| **Managing Behaviour (Standard 7 – ‘Manage behaviour effectively’)** | | | |
| **Learn that…** | **Education and Professional Studies** | **Subject Knowledge and Pedagogy: Curriculum Studies and Pathway** | **Professional Studies** |
| 7.1 Establishing and reinforcing routines, including through positive reinforcement, can help create an effective learning environment. | Child Development  Behaviour | **English:** Appropriate classroom behaviour modelled by tutors. Health and safety, risk assessment and BM implications for less formal practice, e.g. role play, storytelling, performance poetry  **Mathematics:** Modelled by tutors, e.g. resource management, transitions from one activity to another, etc.  **Science:** Risk assessment and safe boundaries inside and outside of the classroom  **Art:** Appropriate classroom and behaviour management constantly modelled, including essential health and safety considerations  **Computing:**  **Design and Technology:** risk assessment and safe boundaries  **Humanities:** Modelled by tutors - e.g. emphasis on using artefacts - handling especially with difference between RE and Historical artefacts. Discussion on fieldtrips and use of resources on tables  **Modern Languages:** Target language for classroom routines.  **Music:** Foster high expectations for behaviour in practical music making and explore how best to do this when teaching whole class, small groups and individual children  **PE:** Appropriate classroom and pupil behaviour modelled by tutors (e.g. rules & routines). | **Learning** - Behaviour and Classroom Management |
| **Science Pathway:**   * Motivation and behaviour – how great teaching enables engagement |
| 7.2 A predictable and secure environment benefits all pupils but is particularly valuable for pupils with special educational needs. | Child Development  Behaviour  SEND | **English:** Appropriate classroom behaviour modelled by tutors; the importance of valuing contributions from all pupils, regardless of learning need  **Mathematics:**  **Science:** the importance of feeling safe and secure enough to enquire and explore freely.  **Art:** the art classroom should support wellbeing for all  **Computing:**  **Design and Technology:**  **Humanities:** creating a safe environment respecting all.  **Modern Languages:**  **Music:** Foster a positive and safe environment for practical music. Children are encouraged to explore and work creatively.  **PE:** Appropriate classroom and pupil behaviour modelled by tutors (e.g. rules & routines). | L**earning** - Behaviour and Classroom Management  **Welfare** - Safeguarding and Pastoral Systems |
| **Science Pathway:**   * Adaptive teaching and motivation– how great teaching enables engagement |
| 7.3 The ability to self-regulate one’s emotions affects pupils’ ability to learn, success in school and future lives. | Child Development  Behaviour | **English:** The importance of literature to develop pupils’ empathy for and understanding of groups other than themselves  **Mathematics:**  **Science:** promoting exploratory discourse  **Art:** art making can be a valuable outlet for emotion and a good way to understand others  **Computing:**  **Design and Technology:**  **Humanities:**  **Modern Languages:** Language learning strategies, affective filter  **Music:** Promote positive values  **PE:** Promoting pupil self-confidence, self-esteem and self-control in PE. | **Learning** - Behaviour and Classroom Management |
| **Science Pathway:**   * Respectful discussion – how scientists change their minds |
| 7.4 Teachers can influence pupils’ resilience and beliefs about their ability to succeed, by ensuring all pupils have the opportunity to experience meaningful success. | Child Development  Behaviour  Educational Theory | **English:** The importance of a diverse language and literature-rich curriculum which speaks to pupils’ lives and in which they feel seen  **Mathematics:**  **Science:** a significant amount of achievable challenge, emerging from real life issues (the climate crisis, for instance)  **Art:** all activities should balance challenge with achievable objectives  **Computing:** celebrating each other’s work  **Design and Technology:**  **Humanities:** use of authentic praise for humanities skills developed and knowledge not only retained but employed.  **Modern Languages:** Language learning strategies, modelling confidence and curiosity in ML, planning  **Music:** Provide opportunities for performance for all learners  **PE:** Encouraging pupils in PE to be positive, be fair, to know what’s right and wrong and how to cope with winning and losing/success and failure. | **Learning** - Behaviour and Classroom Management |
| **Science Pathway:**   * EY/ KS1/ KS2/3 transitions * Planning for progression |
| 7.5 Building effective relationships is easier when pupils believe that their feelings will be considered and understood. | Child Development  Behaviour | **English:** Literature as empathy  **Mathematics:**  **Science: l**ooking through children’s eyes (Buzz board) and a humanist grounding.  **Art:** affective dimension to learning in the subject is as important as effective  **Computing:**  **Design and Technology:**  **Humanities:** Modelled in P4C session.  **Modern Languages:** modelling confidence, resilience and curiosity in ML  **Music:** Explore children's music  **PE:** Understanding pupils (e.g. interests, limitations etc) and how they think and learn in PE. | **Learning** - Behaviour and Classroom Management  **Welfare** - Safeguarding and Pastoral Systems |
| **Science Pathway:**   * Respectful discussion * Transitions * Planning for progression |
| 7.6 Pupils are motivated by intrinsic factors (related to their identity and values) and extrinsic factors (related to reward). | Child Development  Behaviour | **English:** Garnering pupils’ interests by offering them a curriculum in which they feel valued and seen  **Mathematics:**  **Science:** grounding science in real-life issues, that matter to children.  **Art:** the art curriculum should be inclusive and inviting for all  **Computing:**  **Design and Technology:**  **Humanities:** Building on the pupils’ interest – setting up the enquiry questions.  **Modern Languages:** culture, modelling confidence, resilience and curiosity in ML  **Music:** Music important to you  **PE:** Planning engaging, interactive and inspiring lessons that motivate pupils to learn in PE. |  |
| **Science Pathway:**   * Through science enquiry, and the wonders of science! |
| 7.7 Pupils’ investment in learning is also driven by their prior experiences and perceptions of success and failure. | Child Development  Behaviour  Educational Theory  Addressing issues of gender and social inequality | **English:** Explicitly valuing pupils’ ethno-knowledge to create a safe and stimulating learning environment  **Mathematics:**  **Science:** nurturing a confidence and excitement about science; an appreciation of where science might take us.  **Art:** creating a positive attitude to the subject and a ‘can do’ disposition  **Computing:**  **Design and Technology:**  **Humanities:** Valuing ethno-knowledge enables pupils’ to feel included and creates safe environment which builds on failures and celebrates successes.  **Modern Languages:** culture, modelling confidence, resilience and curiosity in ML  **Music:** Promote a love for music.  **PE:** Encouraging a positive attitude, self-confidence and a love of learning in PE. |  |
| **Science Pathway:**   * Building on children’s ideas, question and misconceptions |

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| **Managing Behaviour (Standard 7 – ‘Manage behaviour effectively’)** | |
| **Learn how to…** | **SBW** |
| **Develop a positive, predictable and safe environment for pupils, by:**   * Receiving clear, consistent and effective mentoring in how to respond quickly to any behaviour or bullying that threatens emotional safety.   **And - following expert input - by taking opportunities to practise, receive feedback and improve at:**   * Establishing a supportive and inclusive environment with a predictable system of reward and sanction in the classroom. * Working alongside colleagues as part of a wider system of behaviour management (e.g. recognising responsibilities and understanding the right to assistance and training from senior colleagues). * Giving manageable, specific and sequential instructions. * Checking pupils’ understanding of instructions before a task begins. * Using consistent language and non-verbal signals for common classroom directions. * Using early and least-intrusive interventions as an initial response to low level disruption.   **Establish effective routines and expectations, by:**   * Discussing and analysing with expert colleagues how routines are established at the beginning of the school year, both in classrooms and around the school.   **And - following expert input - by taking opportunities to practise, receive feedback and improve at:**   * Creating and explicitly teaching routines in line with the school ethos that maximise time for learning (e.g. setting and reinforcing expectations about key transition points). * Reinforcing established school and classroom routines   **Build trusting relationships, by:**   * Discussing and analysing with expert colleagues effective strategies for liaising with parents, carers and colleagues to better understand pupils’ individual circumstances and how they can be supported to meet high academic and behavioural expectations.   **And - following expert input - by taking opportunities to practise, receive feedback and improve at:**   * Responding consistently to pupil behaviour. * Engaging parents, carers and colleagues with support (e.g. discussing a script) from expert colleagues and mentors both in formal and informal settings.   **Motivate pupils, by:**   * Observing how expert colleagues support pupils to master challenging content, which builds towards long-term goals and deconstructing this approach. * Discussing and analysing with expert colleagues how experienced colleagues provide opportunities for pupils to articulate their long-term goals and helping them to see how these are related to their success in school. * Discussing and analysing with expert colleagues how to support pupils to journey from needing extrinsic motivation to being motivated to work intrinsically. | Trainees use the Exeter Model training tools, in conjunction with consistent and effective mentoring from their LEAD MENTOR and REFLECTIVE MENTOR, to build on the expert input provided by the ‘Learn That…’ aspects of the curriculum to meet the ‘Learn how to…’ aspects at a pace and in a sequence that suits their individual needs. |

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| **Professional Behaviours (Standard 8 – ‘Fulfil wider professional responsibilities’)** | | | |
| **Learn that…** | **Education and Professional Studies** | **Subject Knowledge and Pedagogy: Curriculum Studies and Pathway** | **Professional Studies** |
| 8.1 Effective professional development is likely to be sustained over time, involve expert support or coaching and opportunities for collaboration. | The Exeter Model | **English:** The importance of being proactive in learning about school marking and other assessment procedures, planning expectations, and use of other adults. The importance of collaborative teamwork  **Mathematics: Mathematics Framework Task, e**ncouraging teamwork by using thinking together approaches, importance of being proactive  **Science:** developing a scientific community of practice, the importance our own scientific culture and understanding. Encouragement of CPD, and in particular, evidence-based CPD.  **Art:** further opportunities for CPD in the subject should be taken up whenever and wherever possible – eg. encouraging partnership projects with artists/ galleries  **Computing:** links to CAS and other computing associations.  **Design and Technology:**  **Humanities:** Encourage teamwork - modelled in peer teaching - build on each other's and pupils' prior learning. Emphasis on ethno-knowledge of all staff and pupils as a resource for the Humanities  **Modern Languages:**  **Music: P**ractice, rehearse, refine, evaluate.  **PE: PE Framework Task**, encouraging CPD-led activities (e.g. attending accredited short courses, collaborative/peer teaching with experts such as subject leads, sports coaches and/or PE teachers). | **Being a Teacher** - Continuing Professional Development |
| **Science Pathway:**   * Preparing for the role of science Subject Lead |
| 8.2 Reflective practice, supported by feedback from and observation of experienced colleagues, professional debate, and learning from educational research, is also likely to support improvement. | The Exeter Model  Being a Teacher  Professionalism and Researchful Practice  Masters level practice | **English:** Giving and receiving peer feedback in peer-taught sessions  **Mathematics:**  **Science:** reflection is a key part of the course in general. Specifically science is reflected upon in journals after seminars and peer-teaching.  **Art:** reflection and evaluation skills underpin learning for teachers as well as pupils  **Computing:**  **Design and Technology:**  **Humanities:** Peer teaching feedback given.  **Modern Languages:**  **Music:** Develop professional relationships with visiting musicians and know how best to draw on advice and support from specialist teachers  **PE:** Collaborative/peer teaching with experts such as subject leads, sports coaches and/or PE teachers). |  |
| **Science Pathway:**   * Science pathway assignment |
| 8.3 Teachers can make valuable contributions to the wider life of the school in a broad range of ways, including by supporting and developing effective professional relationships with colleagues. | The Exeter Model  Being a Teacher  Professionalism and Researchful Practice | **English:** An introduction to drama and how it might be used to enrich the wider life of the school  **Mathematics:**  **Science:** developing a community of practice  **Art:** Encouragement to connect to school and local community to enhance art learning opportunities  **Computing:**  **Design and Technology:**  **Humanities:** Local area – build on historical, geographical and religious elements of locality of the school.  **Modern Languages:**  **Music:** Promote extracurricular musicial activity - make links to classroom learning  **PE:** Promoting and leading extra-curricular activities (e.g. in various games such as football, touch rugby, netball etc; athletics, dance etc) and inviting colleagues and parents to lead various activities. | **Being a Teacher** - Employment |
| **Science Pathway:**   * Preparing for the role of Science subject Lead |
| 8.4 Building effective relationships with parents, carers and families can improve pupils’ motivation, behaviour and academic success. |  | **English:** Offering a curriculum which values and celebrates the lives and tradition of pupils’ families  **Mathematics:**  **Science:** Emphasising home-school links to promote learning  **Art:** eg. projects can bridge the home-school divide - parents learning alongside pupils  **Computing:**  **Design and Technology:**  **Humanities:** Links with home encouraged as sources of ethno-knowledge.  **Modern Languages:**  **Music:** Draw on the support of musical parents  **PE:** Encouraging strong teacher-parent relationships to support pupil learning. |  |
| **Science Pathway:**   * Assessment in Science (floorbooks, report writing, communicating with parents and carers) |
| 8.5 Teaching assistants (TAs) can support pupils more effectively when they are prepared for lessons by teachers, and when TAs supplement rather than replace support from teachers. | Reflecting on classroom practice: working with TAs  SEND | **English:** An introduction to some key English intervention programmes and how they might be delivered by a TA  **Mathematics:**  **Science:** using TA support to help with resources and assessment.  **Art:** adequate preparation of resources is essential and TAs can help with this  **Computing:**  **Design and Technology:**  **Humanities:** Use of TAs to support enquiry lessons.  **Modern Languages:**  **Music:** Draw on the support of musical TAs  **PE:** Involving TAs in the planning and teaching of PE lessons to support pupil learning. |  |
| **Science Pathway:**   * Use of TAs to support pupils’ learning e.g. in practical lessons, or during informal learning sessions (outside, at museums) |
| 8.6 SENCOs, pastoral leaders, careers advisors and other specialist colleagues also have valuable expertise and can ensure that appropriate support is in place for pupils. | SEND  Being a Teacher  Professionalism and Researchful Practice | **English:** Drawing on the expertise of others to gain insight and plan for specific learning needs  **Mathematics:**  **Science:**  **Art:** meeting individual pupil needs, informed by all available information  **Computing:**  **Design and Technology:**  **Humanities:**  **Modern Languages:**  **Music:**  **PE:** Drawing upon the expertise of colleagues to inform the planning, teaching and learning of all pupils in PE. | **Being a Teacher** -Employment  **Welfare** - Safeguarding and Pastoral Systems |
| **Science Pathway:**  Adaptive teaching – understanding the needs of all pupils |
| 8.7 Engaging in high-quality professional development can help teachers improve. | The Exeter Model  Being a Teacher  Professionalism and Researchful Practice | **English:** Opportunities for engaging with resources from CLPE and UKLA  **Mathematics:**  **Science:** using associations and CoP (e.g. ASE, PSTT)  **Art:** maximising all CPD opportunities – eg drawing on NSEAD, AccessArt, Crafts Council etc.  **Computing:** using associations and CoP (e.g. CAS)  **Design and Technology:**  **Humanities:** CPD opportunities and membership – NATRE, GA and HA advertised and encourage to the group.  **Modern Languages:**  **Music:** Understand the importance of reflection on practice and continuing CPD in music  **PE:** Exploring all CPD opportunities for development and improvement (e.g. membership of a PE/subject association, attending accredited PE-related short courses, postgraduate study etc). | **Welfare** - Safeguarding and Pastoral Systems |
| **Science Pathway:**   * CPD , ASE, PSTT memberships encouraged * Preparing for ECT |

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| **Professional Behaviours (Standard 8 – ‘Fulfil wider professional responsibilities’)** | |
| **Learn how to…** | **SBW** |
| **Develop as a professional, by:**   * Receiving clear, consistent and effective mentoring in how to engage in professional development with clear intentions for impact on pupil outcomes, sustained over time with built-in opportunities for practice. * Receiving clear, consistent and effective mentoring on the duties relating to Part 2 of the Teachers’ Standards.   **And - following expert input - by taking opportunities to practise, receive feedback and improve at:**   * Strengthening pedagogical and subject knowledge by participating in wider networks. * Learning to extend subject and pedagogic knowledge as part of the lesson preparation process. * Seeking challenge, feedback and critique from mentors and other colleagues in an open and trusting working environment. * Reflecting on progress made, recognising strengths and weaknesses and identifying next steps for further improvement. * Engaging critically with research and using evidence to critique practice.   **Build effective working relationships, by:**   * Discussing and analysing with expert colleagues how experienced colleagues seek ways to support individual colleagues and working as part of a team. * Observing how expert colleagues communicate with parents and carers proactively and make effective use of parents’ evenings to engage parents and carers in their children’s schooling and deconstructing this approach. * Receiving clear, consistent and effective mentoring in how to work closely with the SENCO and other professionals supporting pupils with additional needs, including how to make explicit links between interventions delivered outside of lessons with classroom teaching. * Discussing with mentor and expert colleagues how to share the intended lesson outcomes with teaching assistants ahead of lessons. * Receiving clear, consistent and effective mentoring in how to ensure that support provided by teaching assistants in lessons is additional to, rather than a replacement for, support from the teacher.   **And - following expert input - by taking opportunities to practise, receive feedback and improve at:**   * Contributing positively to the wider school culture and developing a feeling of shared responsibility for improving the lives of all pupils within the school (e.g. by supporting expert colleagues with their pastoral responsibilities, such as careers advice). * Knowing who to contact with any safeguarding concerns and having a clear understanding of what sorts of behaviour, disclosures and incidents to report. * Preparing teaching assistants for lessons under supervision of expert colleagues.   **Manage workload and wellbeing, by:**   * Observing how expert colleagues use and personalise systems and routines to support efficient time and task management and deconstructing this approach. * Discussing and analysing with expert colleagues the importance of the right to support (e.g. to deal with misbehaviour). * Protecting time for rest and recovery and being aware of the sources of support available to support good mental wellbeing.   **And - following expert input - by taking opportunities to practise, receive feedback and improve at:**   * Collaborating with colleagues to share the load of planning and preparation and making use of shared resources (e.g. textbooks). | Trainees use the Exeter Model training tools, in conjunction with consistent and effective mentoring from their LEAD MENTOR and REFLECTIVE MENTOR, to build on the expert input provided by the ‘Learn That…’ aspects of the curriculum to meet the ‘Learn how to…’ aspects at a pace and in a sequence that suits their individual needs. |

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| **Beyond the Core Content Framework** | | |
| **Education and Professional Studies** | **Subject Knowledge and Pedagogy** | **Professional Studies** |
| Child protection and safeguarding  Seminar Day 4: Prevent and British Values  Leadership  Masters level writing: reviewing and critiquing  the literature.  Professional and researchful practice  Being a teacher  *Interpreting Data Task*  *Optional Leadership Task*  *EPS Module Assignment*  *Pathway Assignment* | **English:** Centrality of offering a curriculum which represents and is inclusive to learners from all backgrounds, including contexts of minority diversity and EAL  **Mathematics:**  **Science:** to consider scientific values and how these vary around the world.  **Art:** To understand other cultures and explore complex questions  **Computing:**  **Design and Technology:**  **Humanities:** Examining treating others with dignity in work on global citizenship. Tolerance and respect for others particularly modelled in RE and geography. Intercultural communication - worldviews examined in RE including misconceptions and miscommunication  **Modern Languages:** Intercultural understanding, modelling openness and curiosity about language and culture  **Music:** To understand other cultures and explore complex questions  **PE:** Understanding other cultures and treating others with respect, tolerance and dignity. | **Being a Teacher** - Contractual and Legal Responsibilities |
| **Science Pathway:**   * Preparing for the role of science subject leader * Cross-curricular approaches: joint session with other pathway on dialogic learning |

**Core Content Framework reference list**

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| **High Expectations (Standard 1 – ‘Set high expectations’)** | | |
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