

ENGLISH, MATHEMATICS, SCIENCE

A summary of the essential curriculum knowledge and skills trainees have learnt from the university-taught PGCE curriculum for the **core curriculum subjects** in preparation for their school experience placement. School experience placements provide opportunities for trainees to work alongside expert mentors to **implement in practice** their curriculum knowledge, develop skills, discuss, analyse and evaluate what works and why, adapt and improve their teaching in each subject.

**ENGLISH****Using talk for learning**

- model new vocabulary and new sentence structures in context; scaffold talk activities that challenge each pupil to contribute and to make progress in learning

Scaffolding talk to lead into writing

- embed directed and purposeful talk before writing tasks in all lessons

Embedding grammar for purpose in lessons

- use good quality texts to model grammar in context & to support grammar talk; encourage 'language detective skills' by providing regular opportunities to highlight text and to identify and explain patterns

Teaching reading through SSP in KS1

- articulate the sounds clearly and precisely, plan opportunities for children to apply their phonic knowledge in reading and writing; scaffold the teaching of grapho-phonically irregular words

Teaching guided reading in KS1/2

- use strategies such as directed talk and links to prior experience; provide challenge through careful questioning and assessments of reading behaviours; provide opportunities for discussion, thinking aloud and reading; use quality children's literature

Drama

- Use strategies of drama such as freeze-frame, hot seating, role play, mantle of the expert to extend pupils' skills to see different perspectives, to understand emotions and feelings in context and to use verbal and non-verbal activities to expand problem-solving and interpretation skills

Assessment

- afl, techniques such as questioning, feedback, peer and self assessment, observation

MATHEMATICS**Concrete, pictorial and abstract approaches**

- foster mental imagery using manipulatives / diagrammatic approaches; develop accurate use of mathematical language and notation (e.g. use of =); model with manipulatives and diagrams to show mathematical ideas e.g. bar models; clear demonstration of mathematics using appropriate models: e.g. digit cards, base ten materials, tracks, lines, number squares, PV charts etc.

Counting and mental calculation

- use a range of counting techniques and approaches; model counting consistently and accurately, link counting to mental methods; develop an understanding of the main mental strategies e.g. partitioning, rounding, doubling; discuss methods and strategies including checking strategies; apply mental maths to measures / shape; encourage estimation and approximation

Calculation methods and policy

- use written methods from a school policy such as grid method, bus stop method etc; review, use and promote correct mathematical language of calculation such as 'product' and 'partition'; show recognition of errors and misunderstandings

Problem solving

- use a framework to encourage careful engagement with the problem e.g. limitations of RUCSAC; establish links to real life problems e.g. use real-life data and materials

Proportional reasoning

- use a variety of representations to model fractions as part of a whole; use 'non-examples' to reinforce conceptual understanding and address misconceptions; use CPA process for robust understanding, use accurate terminology including denominator, numerator, unit fraction and non-unit fraction, build fluidity of thinking to explore equivalence (FDP).

Assessment

- afl, techniques such as questioning, feedback, peer and self assessment, observation.

SCIENCE**Scientific knowledge & conceptual understanding**

- children learn by constructing knowledge from their experiences and that this can result in misconceptions; misconceptions can be discovered through elicitation and addressed effectively using practical activities; develop children's curiosity and link science to children's lives by using real-life examples and relevant role models; plan and teach lessons that develop children's subject knowledge and skills and engage their curiosity;

Nature, processes and methods of science

- there are five types of scientific enquiry that can be used to answer investigation questions; children need to develop a degree of control in planning and completing investigations; give children choices to develop curiosity and allow them a degree of control in investigational work;

Spoken language

- use scientific language orally including in discussion of concepts, procedures, investigation results and conclusions; plan and teach activities that include peer/whole class discussion; create meaningful and focussed dialogue with and between children

Science curriculum: subject knowledge and working scientifically

- the science curriculum specifies both a subject knowledge strand and a working scientifically skills strand; plan activities that include objectives for subject knowledge and working scientifically; effective lessons use both a subject knowledge and a working scientifically learning objective to create opportunities to practise the skills in context.

Assessment

- afl, techniques such as questioning, feedback, peer and self assessment, observation.

CURRICULUM PROGRESSION AND ASSIGNMENTS

The tables below show how curriculum learning, skills, knowledge and understanding are introduced in semester 1 (SE1) and developed, refined and enhanced in semester 2 (SE2).



CURRICULUM: Semester 1 into SE1

	Introduction to the profession	Establishing the foundations	Developing skills
Skills, knowledge and understanding	<ul style="list-style-type: none"> being professional purposes of education the importance of subjects safeguarding and statutory frameworks managing workload organisation professional communication 	<ul style="list-style-type: none"> behaviour for learning theories of learning planning for learning plan-teach-assess and review cycle equality, diversity and inclusion understanding the importance of strong subject knowledge questioning skills teaching strategies assessing needs developing subject knowledge and pedagogy 	<ul style="list-style-type: none"> school induction, policies and practices observing teaching, learning & behaviour management teaching small groups/short episodes planning and teaching sequences of lessons under the direction of the teachers adaptive teaching mentor feedback & target setting understanding the wider role of the teacher use of research evidence and methods

CURRICULUM: Semester 2 into SE2

	Deepening understanding	Developing agency	Impact on learning	Enrichment and enhancement
Skills, knowledge and understanding	<ul style="list-style-type: none"> questioning skills teaching strategies assessing needs assessing over time using efficient approaches to assessment addressing misconceptions assessment and feedback 	<ul style="list-style-type: none"> well-being time management resilience effective communication developing intentions in subject teaching and curriculum design using assessment to inform future curriculum design 	<ul style="list-style-type: none"> personalised interventions and development of enhanced practice teaching & learning theory into practice progression in subjects assessment requirements planning and teaching with increasing autonomy to meet diverse needs of pupils using data and assessment information to inform lesson planning 	<ul style="list-style-type: none"> planning and teaching autonomously to meet diverse needs of pupils using assessment information to inform communication with children, colleagues, parents preparing to become an ECT

ASSIGNMENTS (3x 4,000 words, Masters level)

DEVELOPING PRACTITIONER ENQUIRY (OCTOBER)	<ul style="list-style-type: none"> the focus is on discussion and analysis of a small-scale practitioner enquiry in a classroom in relation to socio-constructivist learning theories.
INCLUSIVE EDUCATIONAL PRACTICE (FEBRUARY)	<ul style="list-style-type: none"> the focus is on understanding diversity and inclusion in the primary classroom and what this means for pupils and teachers.
LEARNING, TEACHING AND ASSESSMENT (APRIL)	<ul style="list-style-type: none"> the focus is on reflective practice and the application of different theories of learning to the cycle of planning, teaching/ learning, assessment, evaluation.