**PGCE Mathematics Specialism Programme 2015-16**

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| **Monday 2.30 m- 4pm** | 9th November  | Number in the Early Years  |
| 30th November | Embedding place value  |
| 14th December  | Pattern Sniffing |
| Spring term (date tba) | Proportionality  |
| Spring term (date tba) | Mathmagics |

**At the University**

The five 90 minute Subject Knowledge Enhancement (SKE) sessions are designed to dig deeper in areas that are covered more generally within the main maths sessions.

You will also be expected to attend 4 one hour meetings; the first at the start of SBT1, then at SBT1 midpoint, the start of SBT2 and at SBT2 midpoint. These meetings will be to discuss the tasks set during school placement and your progress within them.

**University Task**

Design a maths game to play with a group of Key Stage 1 children. You will be introduced to some examples in your first SKE session in early November. You will play the game with children during your day-link visits and may give you an opportunity to collect mathematical talk for your EDP4127 assignment.

**In School**

**During Day link visits** (Thursdays beginning 19.11.15)

Find out about the bigger picture of mathematics in the school:

1. Does the school use any commercial maths programmes (e.g. Abacus, Inspire, Big Maths)?
2. What maths interventions take place in the school?
3. How does the school assess mathematics (teacher assessment or an assessment programme)?
4. Does the school have any maths INSET planned this term (autumn or spring term)?
5. Does the school set for maths? If so what year groups?
6. Does the school have a calculation policy?
7. Does the school have any extra-curricular maths activities?

**Day link tasks**

Play your maths game with a group of children and reflect on the learning and conversation it generates.

Observe 2 lessons according to the Haylock Connections model (see observation sheet). Ideally ask to observe a KS1 lesson and a KS2 lesson.

Action, image, conversation and symbols: What balance between these representations is evident in the lesson? Reflect on this in your journal.

**During prep week** (1 week 4/01/16)

Make links with relevant staff to timetable in your observations. Arrange dates for points within your block placement to observe an EY, KS1 and KS2 maths lesson and, if available, arrange to observe a maths intervention session.

Timetable the subject leader to observe you teaching mathematics twice during the teaching block

**SBT1 Block**

Observe the teaching of mathematics with particular focus. Try to separate yourself from watching the teacher, or thinking about behaviour strategies and focus on the learning that is going on. Consider how the children reason mathematically, what the children do with resources, how the children respond to teacher questioning. Reflect in your journal.

Complete a maths walk (Indoor and outdoor areas). Document the number rich environment, displays, access to resources, maths in the playground, the school hall, the corridors etc

Gather evidence of these activities in your portfolio and reflective journal.

**SBT2 Block**

The following are suggested activities that will assist you in evidencing your specialism:

* read the calculation policy and reflect on it
* interview the subject leader about the curriculum map
* engage with attainment tracking across year groups and key stages
* interviewing the SENCo
* collect samples of homework and evaluate its purpose
* assist with CPD opportunities

**SBT2 Tasks**

**Complete the resource audit.**

**Complete a child case study**: Identify a child who is displaying an interesting mathematical learning profile.

This can be one of your profile children. You will use this child as a case study to reflect on your teaching of mathematics and your ability to differentiate the learning objective and challenge the child.

What are the challenges to learning? You may need to meet with the SENCO or Inclusion manager.

What mental strategies does the child use to calculate simple number problems? (Understanding place value, number sense, known facts, ability to make connections between the number operations?)

Is the child on any specific Interventions? Ask the member of staff who runs the intervention if you can observe a session.

What access to concrete images does the child have?

Run a 20 minute narrative on the child in the whole class maths lesson. What mathematical habits are displayed? What attitude to learning do you see?

Continue to develop your portfolio. Make sure that you look at the support materials provided in the Specialism folder on Unihub.

Continue to reflect in your journal. Reflect on what you see in the classroom, (misconceptions are interesting!) and annotate it with reading/articles to link the theory with practice.

**When observing or planning your own lessons remember Haylock’s Connective Model!**

**Things to watch out for:**

* Does the lesson include **Action, Imagery, Conversation** and **Symbols**?
* Is there any acknowledgement of children’s ability to **pattern** sniff? Watch out for the child who is beginning **to predict** and **generalise** within the mathematical problem.
* What **Mathematical Reasoning** are you hearing from the children? Does the lesson provide opportunities for developing this key skill?

**What you can do now!**

We would urge you to register with the associations for maths teacher. Some are free to register with and some require an annual membership fee that is reduced if you are a trainee of NQ teacher. These organisations run conferences, development programmes and one off lectures as well as offering many free resources and interesting articles.

National Centre of Excellence for the teaching of mathematics: <https://www.ncetm.org.uk/>

National STEM Centre: <http://www.nationalstemcentre.org.uk/>

Association for the teachers of mathematics: <http://www.atm.org.uk/>

Mathematics Association: <http://www.m-a.org.uk/jsp/index.jsp>

London Mathematical Society: <http://www.lms.ac.uk/>

Nrich: Begin to work your way around the excellent free resource <http://nrich.maths.org/frontpage>

**Start gathering evidence of your interest.**

**Evidencing your developing specialism**

**Portfolio of evidence**: This will evidence your knowledge of the workings of mathematics teaching within a primary school environment as well as your wider interest in the subject and as a vital life skill. The portfolio will contain lesson observations, samples of work, planning samples, calculation policies, but also cuttings from articles, annotated bits of reading and anything else that you feel evidences your interest over and above the Teacher Standard expectations.

**Reflective journal**. This should contain discussions with teachers, parents, SENCO etc and your own developing thoughts on the teaching of mathematics. It should contain reflection on interaction with children, their moments of learning, their misconceptions and their responses. This will evidence your development as a teacher of mathematics.