Example Targets:
Dear Mentors,

I have been looking again at the area of 'subject specific targets'. Subject specific target setting is a really important consideration for us - somebody reading one of our reviews should be left in no doubt that it is a *maths* trainee being reviewed. Can I encourage you to consider, when setting the maths specific target, the details of what makes maths teaching uniquely challenging and the particular devices we have at our disposal to support maths learning?

Ideas for how this can developed include:

- maths specific reading - DfE non-statutory guidance for example, Doug French, Anne Watson, John Mason
- maths specific tools - algebra tiles, DESMOS, GeoGebra, cuisenaire rods
- maths specific pedagogy - the use of diagrams, representations and structures, linking areas of the curriculum (for example supporting numerical fluency by including fractions on lessons on area), use of non-standard and non-examples, identifying component and composite skills

I think these targets are challenging to construct because we know that we obviously mean in the maths classroom! Looking at the previous review, there were two successful approaches. First, (example 1) to look at an upcoming topic and give some focussed actions and secondly (example 2, 3 and 4) to look at a broader mathematical approach.

Example 1: Considering a specific area of the curriculum

Target: Develop your teaching of geometry with year 10 so that the students have a firm understanding of the use of mathematical language and develop their reasoning further
Actions: Read Doug French's Teaching and Learning Geometry: Issues and methods in mathematical education. Use this to help you consider the component and composite skills which will be required for the sequence of lessons. Consider how you can use tools such as DESMOS to explore the material, (circle theorems for example). Make sure you include non-examples in your explanations to ensure a richer understanding.

Example 2: Developing as a mathematical practitioner

Target: Develop further your understanding of the barriers to learning maths and how you can support this in the classroom. For example, mathematical misconceptions, maths anxiety and the question "when will I ever need this".
Actions: Before starting on a topic, read the non-statutory guidance, or look at the NCETM website, to raise your awareness of possible misconceptions. For each misconception consider a diagram, a representation or a manipulative you could use to support the understanding of that piece of learning. When planning, consider "why this? why now?" for each activity so that each has a purpose in supporting the learning. Look for opportunities for pupils to be successful and reward this accordingly. Be prepared for, and actively encourage, the question "when will I ever need this" and consider the value of each piece of learning -

often there isn't a direct and genuine context but there are still valuable skills in problem solving, logical thinking and reasoning.

Example 3:

Target: Develop your use of mathematical scaffolding
Actions: Consider a range of diagrams that you can use in your explanations, for example ratio tables. Think about the language that you use and how you use it; using technical definitions but breaking down the language to make it accessible. For example 'prime factor decomposition', 'completing the square' - go through what each part means. Consider using the strategy of 'minimally different questions' in order to focus on one key learning point at a time.

Example 4

Target: Develop mathematical medium term planning CCF 2 and 4

It has been good to see how you are drawing on the 5 Big Ideas in teaching mathematics, particularly looking at Kris Boulton's work on atomisation. It would be good to see this used to inform the planning of a more significant sequence of lessons, for example the full 'indices' topic you will be teaching to year 10.

Actions:

- Read again Kris Boulton's blog.
- Identify the key concepts in teaching indices (by speaking to colleagues, looking at the textbook and looking at the GCSE spec). Use the 'hardest example' approach.
- Sequence these key concepts across 5 lessons, stating where you would introduce each and where you would review each.
- Check this with your host teacher before planning the lessons!

Target setting is challenging and if I can be of any help with constructing a target please let me know.

Helen