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| Session Content | In the provider led taught curriculum**,** trainees have “**learned** **that**…” and will develop this in a range of contexts. | Trainees have **learnt**, and should begin to demonstrate in“**how to …”:** | Examples of key questions/prompts for expert colleagues to ask trainees to help them reflect on and improve their practice and further **“learn how to…”:** | Links to support trainee/further reading shared with trainees |
| **Counting and mental calculation** | * counting is a complex process and needs to be modelled consistently and accurately
* mental calculation builds on counting skills
* a range of mental calculation strategies need to be taught
* children should be encouraged to choose and use appropriate mental methods
 | * **Strand C: Develop fluency** - use appropriate counting activities- use a range of counting techniques and approaches
* **Strand A – motivate pupils** - use songs & rhymes with younger pupils
* **Strand C: Develop fluency** -model counting consistently and accurately, link counting to mental methods
* **Strand B: Stimulate pupil thinking and check for understanding -**foster mental maths as a first resort, encourage estimation and approximation
* **Strand C: Develop fluency** - show understanding of the main mental strategies e.g. partitioning, rounding, doubling
* Strand B: model effectively - discuss mental meth­ods/strategies appropriate to the year group
* **Strand C: Develop fluency** - discuss methods and strategies, including checking strategies
* **Strand A: Motivate pupils** - use games where appropriate, use methods that allow all pupils to respond e.g. wipe-boards, different pupils to contribute answers, keep up appropriate pace & develops quick mental recall
* **Strand B: Avoid overloading working memory** - take opportunities to reinforce maths concepts & previous teaching/learning.
* **Strand C: Help pupils apply knowledge and skills to other contexts** - offers opportunities to apply mental maths to measures / shape
* **Strand D: Avoid common assessment pitfalls - show** recognition of errors & misunderstandings
 | * What consistent counting approach do you model?
* How will you build in an element of choice for children e.g., which mental method?
* What CPA approach will you use to encourage mental ‘imagery’?

**Impact*** acquire effective teaching, planning, monitoring, assessment and classroom management skills in order to secure the mathematical progress of ALL pupils throughout Key Stages 1 and 2
* Interpret, understand, implement and assess mental calculation progression according to a school calculation policy
 | * <https://thirdspacelearning.com/blog/mental-maths-strategies/>
* [*https://twitter.com/howie\_hua/status/1558966819443974144?t=7bo0uwjyUwNq81ThvpVo6g&s=03*](https://twitter.com/howie_hua/status/1558966819443974144?t=7bo0uwjyUwNq81ThvpVo6g&s=03)
* <https://www.ncetm.org.uk/classroom-resources/ey-cardinality-and-counting/>
* <https://www.ncetm.org.uk/classroom-resources/primm-201-counting-unitising-and-coins/>
* <https://www.ncetm.org.uk/classroom-resources/primm-109-composition-of-numbers-20-100/>
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| **Calculation methods and policy** | * schools publish and use a calculation policy
* calculation policies set out the main route for progression in each operation linked to NC outcomes
* different schools interpret the NC in different ways
 | * **Strand C: Develop fluency** adhere to school calculation policy
* **Strand C: Develop fluency understand** and uses appropriate written methods from school policy such as grid method, bus stop method etc. encourages estimation and approximation
* **Strand C: Develop fluency** - review, use and promote correct mathematical language of calculation such as ‘product’ and ‘partition’
* **Strand B: Avoid overloading working memory**, Build on pupils’ prior knowledge, Increase likelihood of material being retained - offer opportunities for problem solving and reasoning within calculation lessons e.g. spot the mistake, sorting activities and here is the answer, what’s the question (inverses)
* **Strand C: Develop fluency show recognition of errors & misunderstandings**
* **Strand E: develop as a professional** -show a good level of subject knowledge and confidence
 | * How are you using the school calculation policy in this lesson?
* What opportunities are there to practise and rehearse calculation?
* What opportunities are there to reason and/or use a ‘reasoning structure’?
* Have you planned to use children’s errors in your teaching e.g. min plenaries?

**Impact*** Acquire effective teaching, planning, monitoring, assessment and classroom management skills in order to secure the mathematical progress of ALL pupils throughout Key Stages 1 and 2
* Interpret, understand, implement and assess written calculation progression according to a school calculation policy
 | * Familiarity with school’s calculation policy (or sample policies available to trainees via Blackboard)
* NCETM example videos for teaching written strategies e.g. <https://www.ncetm.org.uk/classroom-resources/lv-subtraction/>

<https://www.ncetm.org.uk/classroom-resources/lv-number-facts/>NCETM Spine materials<https://uk.search.yahoo.com/search?fr=mcafee&type=E211GB885G0&p=ncetm+addition+spine><https://www.ncetm.org.uk/news/multiplication-and-division-primary-mastery-pd-materials-now-available/> |