**LeaRNing Journal**

**Subject Knowledge Enhancement Core Content**

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| **Name** | **School** | **Role** |
|  |  |  |

This learning journal aims to support participants to record key points they feel are beneficial to their knowledge, pedagogy and classroom practice, as they progress through the online workshops. The journal itself is a personal document, but can also be submitted to Matrix on completion of all sessions, in order to receive a certificate of participation.

This programme runs over **8 online sessions** and is designed to support practitioners to develop their subject knowledge of core content in maths.

**Overall Aim:**

To develop your mathematical understanding in order to confidently support the teaching of concepts using a mastery approach.

**Structure of programme:**

Session 1: Developing ‘number sense’- part 1

Session 2: Developing ‘number sense’- part 2

Session 3: Additive Reasoning- part

Session 4: Additive Reasoning- part 2

Session 5: Multiplicative Reasoning- part 1

Session 6: Multiplicative reasoning- part 2

Session 7: Fractions- part 1

Session 8: Fractions part 2

**Workshop session 1, Developing ‘Number Sense’- part 1: Learning Reflections**

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| **Key Focus:** * What do we mean by ‘Number Sense’?
* The importance of number sense to future success.
* Subitizing
* Magnitude
* Counting using labels
* 1:1 correspondence
* The stable order principle
* Cardinality
 |
| **Key Observations:** | **What will I do differently back in the classroom?** |

**Workshop session 2, Developing ‘Number Sense’- part 2: Learning Reflections**

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| **Key Focus:** * Cardinal, ordinal and nominal numbers
* Number conservation,
* Hierarchical inclusion
* Part-whole relationships
* Compensation
* Unitizing
 |
| **Key Observations:** | **What will I do differently back in the classroom?** |

**Workshop session 3, Additive Reasoning- part 1:**

**Learning Reflections**

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| **Key Focus:** * Addition vs additive reasoning
* Definition of the additive relationship
* Categorising addition and subtraction problems according to their structure
* Combining- aggregation and separation
 |
| **Key Observations:** | **What will I do differently back in the classroom?** |

**Workshop session 4, Additive reasoning- Part 2:**

**Learning Reflections**

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| **Key Focus:** * Change- augmentation and reduction
* Comparison
* Equalising
* Using the C.P.A. approach to develop understanding
 |
| **Key Observations:** | **What will I do differently back in the classroom?** |

**Workshop session 5, Multiplicative Reasoning- part 1: Learning Reflections**

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| **Key Focus:** * Multiplication vs multiplicative reasoning.
* What do we mean by multiplicative reasoning?
* The Set Model- repeated addition
* The Array model
* The Scaling model
 |
| **Key Observations:** | **What will I do differently back in the classroom?** |

**Workshop session 6, Multiplicative Reasoning- part 2: Learning Reflections**

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| **Key Focus:** * Key areas of learning in developing the concept of multiplication
* Commutative property of multiplication
* Associative property of multiplication
* Distributive property of multiplication
* Key structures for division
 |
| **Key Observations:** | **What will I do differently back in the classroom?** |

**Workshop session 7, Fractions- part 1: Learning Reflections**

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| **Key Focus:** * Defining fractions
* Fractions as an operator
* Part: whole relationships
* Iterating fractions
* Fractions as numbers
 |
| **Key Observations:** | **What will I do differently back in the classroom?** |

**Workshop session 8, Fractions- part 2: Learning Reflections**

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| --- |
| **Key Focus:** * Comparing fractions
* Equivalence
* Fractions as a quotient in division
* Improper fractions and mixed numbers
 |
| **Key Observations:** | **What will I do differently back in the classroom?** |

Congratulations on completing all online sessions of the Subject Knowledge Enhancement Core Content training programme.

Please email a copy of this learning journal and evaluation survey below, to admin@matrixmathshub.co.uk in order to receive a certificate of participation.

**Evaluation survey**

**Introduction**

*Maths Hub projects and Work Groups are designed to improve maths educators’ knowledge and practice, improve mathematics across schools or departments and make positive changes to the mathematical experiences and achievement of children and students. This survey will be used by the Work Group Lead, Project Lead, Lead Evaluator and Maths Hub Lead in their evaluation work. Your feedback tells us what we should do more of, what we should change and gives us ideas for the future.*

**Please use the following to evaluate:**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| SA | A | N | D | SD | N/A |
| Strongly Agree | Agree | Neither agree or disagree | Disagree | Strongly Disagree | Not applicable |

**Outcomes**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | SA | A | N | D | SD | N/A |
| My knowledge of **mathematics** has deepened as a result of participating in the project, cohort or Work Group |  |  |  |  |  |  |
| Give one example and explain the impact on your knowledge:  |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | SA | A | N | D | SD | N/A |
| My knowledge of **how to teach mathematics** has deepened by participating in the project, cohort or Work Group |  |  |  |  |  |  |
| Give one example and explain the impact on your practice: |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | SA | A | N | D | SD | N/A |
| I plan to change something in my **professional practice** by participating in the project, cohort or Work Group |  |  |  |  |  |  |
| Give one example and explain what you did differently: |

**Course design**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | SA | A | N | D | SD | N/A |
| The **design and activities** of the project, cohort or Work Group helped me achieve the proposed outcomes |  |  |  |  |  |  |
| Give one example of an activity that helped you and why: |
| Give one example of a change you would make to the design or activities and why: |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | SA | A | N | D | SD | N/A |
| I would recommend this project, cohort, or Work Group to a colleague, please explain why: |  |  |  |  |  |  |
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If you have any other feedback that you have not been able to include anywhere else, please give it here:

Thank you for your feedback.