**Mathology Grade 1 Correlation – Alberta**

**Master 56a**

**Number Cluster 6: Operational Fluency**

**Organizing Idea:**

Number: Quantity is measured with numbers that enable counting, labelling, comparing, and operating.

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| **Guiding Question:** How can quantity be communicated?  **Learning Outcome:** Students interpret and explain quantity to 100. | | | | |
| **Knowledge** | **Understanding** | **Skills & Procedures** | **Grade 1 Mathology** | **Mathology Little Books** |
| Familiar arrangements of small quantities facilitate subitizing. | A quantity can be perceived as the composition of smaller quantities. | Recognize quantities to 10. | **Number Cluster 6: Operational Fluency**  26: Complements of 10 |  |
| Comparisons of quantity can be described by using word such as   * equal * not equal * less * more   Equality can be modelled using a balance.  The equal sign, =, is used to show equality between two quantities.  The unequal sign, ≠, is used to show that two quantities are not equal. | Two quantities are equal when there is the same number of objects in both sets.  Equality is a balance  between two  quantities. | Identify numbers that are one more, two more, one less, and two less than a given number. | **Number Cluster 6: Operational Fluency**  25: More or Less |  |
| Represent a quantity relative to another, including symbolically. | **Number Cluster 6: Operational Fluency**  25: More or Less |  |

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| **Guiding Question:** How can addition and subtraction provide perspectives of number?  **Learning Outcome:** Students examine addition and subtraction within 20. | | | | |
| **Knowledge** | **Understanding** | **Skills & Procedures** | **Grade 1 Mathology** | **Mathology Little Books** |
| Quantities can be composed or decomposed to model a change in quantity.  Addition can be applied in various contexts, including   * combining parts to find the whole * increasing an existing quantity   Subtraction can be applied in various contexts, including   * comparing two quantities * taking away one quantity from another * finding a part of a whole   Addition and subtraction can be modelled using a balance. | Addition and subtraction are processes that describe the composition and decomposition of quantity. | Model addition and subtraction within 20 in various ways, including with a balance. | **Number Cluster 6: Operational Fluency**  27: Adding to 20  28: Subtracting 20  30: The Number Line  32: Part-Part-Whole  33: Patterns in Addition and Subtraction |  |

**Master 56b**

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| Strategies are meaningful steps taken to solve problems.  **Master 56c**  Addition and subtraction strategies include   * counting on * counting back * decomposition * compensation * making tens   Sums and differences can be expressed symbolically using the addition sign, +, the subtraction sign, -, and the equal sign, =.  The order in which two quantities are added does not affect the sum (commutative property).  The order in which two quantities are subtracted affects the difference.  Addition of 0 to any number, or subtraction of 0 from any number, results in the same number (zero property).  A missing quantity in a sum or difference can be represented in different ways, including   * a + b =  * a +  = c *  + b = c * e - f =  * e -  = g *  - f = g | Addition and subtraction are opposite (inverse) mathematical operations. | Investigate addition and subtraction strategies. | **Number Cluster 6: Operational Fluency**  31: Doubles | That’s 10!  Hockey Time!  Canada’s Oldest Sport |
| Add and subtract within 20. | **Number Cluster 6: Operational Fluency**  27: Adding to 20  28: Subtracting 20  29: Fluency with 20  30: The Number Line  32: Part-Part-Whole  35: Consolidation | Buy 1—Get 1  Hockey Time!  Cats and Kittens!  Canada’s Oldest Sport |
| Check differences and sums using inverse operations. | **Number Cluster 6: Operational Fluency**  27: Adding to 20  28: Subtracting 20  30: The Number Line  31: Doubles  32: Part-Part-Whole  34: Solving Story Problems  35: Consolidation | Buy 1—Get 1  Canada’s Oldest Sport  Cats and Kittens!  Hockey Time! |
| Determine a missing quantity in a sum or difference, within 20, in a variety of ways. | **Number Cluster 6: Operational Fluency**  32: Part-Part-Whole  34: Solving Story Problems  35: Consolidation |  |
| Express addition and subtraction symbolically. | **Number Cluster 6: Operational Fluency**  30: The Number Line  32: Part-Part-Whole  34: Solving Story Problems  35: Consolidation |  |
| Solve problems using addition and subtraction. | **Number Cluster 6: Operational Fluency**  34: Solving Story Problems  35: Consolidation |  |

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| Addition and subtraction number facts represent part-part-whole relationships.  Fact families are groups of related addition and subtraction number facts. | Addition number facts have related subtraction number facts. | Identify patterns in addition and subtraction, including patterns in addition tables. | **Number Cluster 6: Operational Fluency**  33: Patterns in Addition and Subtraction | Paddling the River |
| Recognize families of related addition and subtraction number facts. | **Number Cluster 6: Operational Fluency**  32: Part-Part-Whole  34: Solving Story Problems |  |
| Recall addition number facts, with addends to 10, and related subtraction number facts. | **Number Cluster 6: Operational Fluency**  26: Complements of 10 | That’s 10! |

**Master 56d**