MATH YEAR AT A GLANCE – grade 4 (*see curriculum for Elaborations)*

*This is a suggested sequence for teaching concepts and content in a grade 4 year. It is not meant to be prescriptive, but supportive, to newer teachers who want a sense of how a year might roll out. Authors cited are: J. Shumway, “Number Sense Routines”; C. Fosnot, “Young Mathematicians at Work”; J. Lempp, “Math Workshop” & J. Boaler, “Mathematical Mindsets”.*

*Concepts are first taught in the ‘full’ 45 – 60 min. lesson (that is, ‘Before-Explore-Connect-practice’). Once they are established, they are ‘rolled over’ into the daily 5-10 min. ‘Number Sense Routine’ which can happen before the full lesson, or at a different time of the day. This allows for deeper mastery, for sharing of strategies and for concepts to get ‘into their bones’.*

*Note: In grade 4, 8/18 content standards are Number Sense, and 3/18 are Patterns and Algebra. Only 6/18 are the other strands – time, geometry (polygons) and measurement (perimeter of polygons).* ***61% of the Content is Number and Algebra, so 61% of your math time should be, too.***

**Sept.**

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| Number Sense Routine (5-10 min/day) | * Introduce Number talks/routines using Shumway & Fosnot through Basic fact strategies to 20 strategy review – *using flexible computation strategies, involving taking apart and combining numbers* |
| Full Lessons (45 – 60 min/day) | * Build Math community & Growth Mindset (see Van de Walle, Boaler & Lempp) * Number Concepts to 10 000 – *comparing and ordering, estimating large quantities, knowing relationship between digit places and value* * Monetary calculations, making change for amounts to $100 |

**Oct-Nov.**

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| Number Sense Routine (5-10 min/day) | Basic fact strategies to 20 AND Number Concepts to 10 000 |
| Full Lessons (45 – 60 min/day) | * Addition and subtraction to 10 000 - *using flexible computation strategies, involving taking apart and combining numbers* * Regular and irregular polygons, and their perimeter * Line symmetry |

**Dec-Jan.**

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| Number Sense Routine (5-10 min/day) | Number Concepts to 10 000 AND Addition and subtraction to 10 000 |
| Full Lessons (45 – 60 min/day) | * Multiplication and division facts to 100 - *Introductory computational strategies (doubling and halving, connect to skip counting)* * Increasing and decreasing patterns using tables and charts * 1 to 1/many to 1 correspondence using bar and pictographs |

**Feb-March**

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| Number Sense Routine (5-10 min/day) | Multiplication and division fact strategies – *memorization not intended at this level, but recall of 2s, 5’s and 10’s by end of grade 4* |
| Full Lessons (45 – 60 min/day) | * Multiplication and division of two- or three-digit numbers by one-digit numbers * Ordering and comparing fractions |

**April-May**

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| Number Sense Routine (5-10 min/day) | Mult & div facts fluency AND fraction organic number line routines – *comparing and ordering fractions with common denominators, estimating fractions with benchmarks* |
| Full Lessons (45 – 60 min/day) | * Decimals to hundredths * Addition and subtraction of decimals to hundredths * Telling time 12- and 24-hour clocks * Probability experiments |

**June**

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| Number Sense Routine (5-10 min/day) | Mult & div facts (*memorization not intendedl, but recall of 2s, 5’s and 10’s by end of grade 4)* AND 2- & 3-digit mult & div mental math strategies |
| Full Lessons (45 – 60 min/day) | * Review number concepts * Algebraic relationships among quantities * One-step equations with an unknown number using all operations |