

## K-6 Vertical Alignment at a Glance – Foothills School Division

prepared by Shelly Read

| Organizing Idea: Number                  |  |  |  |  |
|--|--|--|--|--|
| Counting                                 | Comparing                              | Addition & Subtraction   | Multiplication & Division  | Part-to-Whole Relationships  |
| <b>Kindergarten:</b><br>Count within 10  | <b>Kindergarten:</b><br>Quantity to 10 | <b>Kindergarten:</b><br>not formally addressed<br><i>more than and less than</i>                                   | <b>Kindergarten:</b><br>not formally addressed   | <b>Kindergarten:</b><br>not formally addressed<br><i>relate to measurement</i>   |
| <b>Grade 1:</b><br>Count within 100      | <b>Grade 1:</b><br>Quantity to 100     | <b>Grade 1:</b><br>Within 20,<br>addends to 10   | <b>Grade 1:</b><br>Skip Count  | <b>Grade 1:</b><br>Fraction of 1/2   |
| <b>Grade 2:</b><br>Count within 1000     | <b>Grade 2:</b><br>Quantity to 1000    | <b>Grade 2:</b><br>Within 100,<br>2-digit numbers  | <b>Grade 2:</b><br>Skip Count  | <b>Grade 2:</b><br>Unit Fractions to /10   |
| <b>Grade 3:</b><br>Counting applications | <b>Grade 3:</b><br>Quantity to 100 000 | <b>Grade 3:</b><br>Within 1000,<br>3-digit numbers   | <b>Grade 3:</b><br>Within 100:<br>- factors to 10  | <b>Grade 3:</b><br>Various Fractions to $a/12$   |
| <b>Grade 4:</b><br>Counting applications | <b>Grade 4:</b><br>Decimals to 0.01    | <b>Grade 4:</b><br>Within 10 000 & 0.01  | <b>Grade 4:</b><br>Prime & Composite Numbers<br><br>Factors & Multiples within 100:<br>- factors to 12<br><br>Within 10 000, natural numbers:<br>- 3-digit by 1-digit  | <b>Grade 4:</b><br>Equivalent Fractions to $a/100$<br><br>Percentage within 100  |
| <b>Grade 5:</b><br>Counting applications | <b>Grade 5:</b><br>10 000 000 to 0.001 | <b>Grade 5:</b><br>Within 1 000 000 & 0.001<br><br>Fractions:<br>- with common denominators<br>- within 100        | <b>Grade 5:</b><br>Divisibility:<br>- natural numbers to 10<br><br>Within 100 000, natural numbers:<br>- multiply 3-digit by 2-digit<br>- divide 3-digit by 1-digit  | <b>Grade 5:</b><br>Improper Fractions<br><br>Mixed Numbers<br><br>Ratios   |
| <b>Grade 6:</b><br>Counting applications | <b>Grade 6:</b><br>Integers            | <b>Grade 6:</b><br>Problem Solving Applications<br><br>Fractions:<br>- with different denominators<br><br>Integers | <b>Grade 6:</b><br>Prime Factorization<br><br>Exponentiation<br><br>Decimal & Natural Numbers:<br>- 3-digit natural or decimal numbers by 2-digit natural numbers<br>- natural numbers by unit fractions and fractions | <b>Grade 6:</b><br>Relate Fractions to Quotients<br>( <i>assumption</i> , both proper and improper fractions)<br><br>Proportional Relationships<br><br>Equivalent Ratios and Rates<br><br>Percentage |

| Organizing Ideas     | Algebra   | Geometry   | Coordinate Geometry  | Measurement   |
|----------------------|---|--|--|---|
| <b>Kindergarten:</b> | not formally addressed  | 2D shapes<br>3D shapes   | not addressed  | Compare size in words:<br>- length, area, capacity, weight (mass)   |
| <b>Grade 1:</b>      | not formally addressed  | 2D shapes<br>Line of symmetry<br>3D shapes<br>Composite shapes   | not addressed  | Compare and order length:<br>- length words & contexts<br>- straight and curved lines<br><br>Compare and order by size:<br>- length, area & capacity                |
| <b>Grade 2:</b>      | not formally addressed  | Attributes of a shape<br>Transformations   | not addressed  | Quantify length:<br>- standard & non-standard units<br>- estimate   |
| <b>Grade 3:</b>      | Solving Equations:<br>- unknown values represented on left side or right side of the = sign (equality symbol) with a symbol   | Line properties<br>Regular Polygons<br>Irregular Polygons<br>Transformations   | not addressed  | Standard length units:<br>- metric & imperial units<br>- use benchmarks to estimate<br><br>Perimeter<br><br>Compare Angles:<br>- direct & indirect comparisons; 90° |
| <b>Grade 4:</b>      | Expressions:<br>- multiple operations<br>- order of operations<br><br>Solving 1 Step Equations:<br>- add & subtract or multiply & divide  | Angle Properties<br>Classify Triangles<br>Quadrilaterals<br>Transform polygons   | not addressed  | Area:<br>- standard & non-standard units<br>- estimate area<br><br>Angles:<br>- degrees in a circle and triangle  |
| <b>Grade 5:</b>      | Numerical Expressions:<br>- order of operations includes parentheses<br><br>Algebraic Expressions:<br>- variables as letters, constant terms, coefficients, & fraction notation<br>- evaluate by substituting<br><br>Solve 1 & 2 Step Equations:<br>- use of inverse operations | Symmetry, in regular polygons and circles:<br>- 2D & 3D reflection symmetry<br>- 2D rotation symmetry, point of rotation lies on the shape | Coordinate Grid:<br>- horizontal axis<br>- vertical axis<br>- quadrant 1<br><br>Coordinates:<br>- ordered pairs<br>- positional language | Area:<br>- square units<br>- rectangles and squares<br>- compare square units to linear units<br>- compare area to perimeter  |

|                        |  |   |  |  |
|------------------------|--|---|--|--|
| <p><b>Grade 6:</b></p> | <p>Analyze Expressions:<br/> - order of operations includes powers<br/> - combine like terms to simplify and evaluate</p> <p>Solve 1 &amp; 2 Step Equations:<br/> - simplify like terms by combining and rearranging expressions<br/> - verify expressions</p> <p>Properties of Expressions:<br/> - commutative, associative, distributive</p> | <p>Symmetry of shapes:<br/> - reflection(s)<br/> - rotation(s), point is off the shape<br/> - tessellations</p> <p>Verify shape congruence:<br/> - relate to symmetry</p> | <p>Cartesian plane:<br/> - origin<br/> - x-axis &amp; y-axis<br/> - (x, y) coordinates of an ordered pair</p> <p>Movement in a plane:<br/> - relate coordinates of transformations</p> | <p>Area:<br/> - parallelograms<br/> - triangles<br/> - composite shapes</p> <p>Volume:<br/> - cubic units<br/> - rectangular prism</p> |
|------------------------|--|---|--|--|

| Organizing Ideas     | Patterns   | Time   | Statistics   |
|----------------------|--|--|--|
| <b>Kindergarten:</b> | Repeating patterns   | Sequence events:<br>- using ordinal numbers or words                                 | not addressed  |
| <b>Grade 1:</b>      | Patterns in cycles<br><br>Pattern cores of up to 4 elements  | Observable cycles of time  | Collect data<br><br>Graph data<br>- concrete & pictographs   |
| <b>Grade 2:</b>      | Increasing and decreasing patterns<br><br>Attributes of up to 4 elements   | Calendar dates<br><br>Standard and non-standard time units                           | Collect first-hand data<br><br>Record data in tables<br><br>Graphs represent data:<br>- pictograph, bar & dot plot |
| <b>Grade 3:</b>      | Numerical sequences based on 4 operations<br><br>Ordinal Numbers<br><br>Finite Sequences<br><br>Infinite Sequences | Analog and digital clocks:<br>- base-60 system<br>- 12-hour cycle<br>- 24-hour cycle | Statistical questions<br><br>First-hand data<br><br>Second-hand data   |
| <b>Grade 4:</b>      | Arithmetic sequences<br><br>Geometric sequences  | Standard units of time as fractions<br><br>Determine duration                        | Statistical problem-solving process<br><br>Use of scale when graphing  |
| <b>Grade 5:</b>      | Tables of Values<br><br>Represent arithmetic sequences in a table and on a coordinate grid                         | not addressed  | Frequency & mode<br><br>Closed list questions & open-ended questions<br><br>Represent frequency in graphs          |
| <b>Grade 6:</b>      | Functions<br><br>Tables of Values:<br>- independent variable, x-coordinates<br>- dependent variable, y-coordinates | not addressed  | Relative frequency<br><br>Law of Large Numbers   |