|  |  |  |
| --- | --- | --- |
| **opportunity for growth** | **performance meets standard of learning (Grade 8)** | **advanced** |
|  | Big Ideas and Content at a glance* Represent and compare rates, ratios, percents
* Computational fluency with fractions
* Discrete linear relationships have many representations & are used to connect and generalize
* Surface area/Volume of 3D objects can be used to describe, measure, and compare spatial relationships
* Determining averages helps us make sense of large data sets
* perfect squares and cubes
* square and cube roots
* percents: <1% , >100%
* rates, ratio, percent, proportions
* operations with fractions
* discrete linear relations
* algebraic expressions
* two-step equations (integer coefficients, constants, solutions)
* surface area and volume
* Pythagorean theorem
* construction/views/nets
* central tendency
* theoretical probability with 2 independent events
* financial literacy - best buys
 |  |
| Learning: Takes Time and Patience, Experiential, Embedded in Story, . . . |
|  | Reasoning and Analysis* Logic and Patterns – observe, predict, generalize
* Estimation
* Mental math strategies
* Model math concepts &/or ‘mathematically model’
 |  |
|  | Understanding and Solving* Strategies (incorporate, develop)
* Use mathematical concepts
* Problem Solving (unfamiliar, inquiry - connect to place, story, culture, First Peoples)
* Visualizing
 |  |
|  | Communicating and Representing* Mathematical justifications (written &/or spoken)
* Concrete, Pictorial, Symbolic
* Contribute to mathematical discussions
 |  |
|  | Connecting and Reflecting* Reflect upon mathematical thinking (self, others)
* Pose new problems/extensions
* Connect to other math, other subjects, world around us, First Peoples
 |  |