Course: Numeracy 8 and 9

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Course Description:

This course is designed to help learners develop a mathematical mindset. The goal of this course is to build foundational numeracy skills, develop curricular competencies, and help students grow as independent learners.

Some big ideas that will be explored are:

- Number relationships are the foundation of mathematical understanding. They help us identify patterns, make generalizations, and solve problems.
- Fluency and flexibility with numbers can be extended to all operations.
- Flexibility and confidence with a variety of strategies and tools promotes mathematical efficacy
- Numbers represent quantities that can be decomposed into smaller parts.
- Fractions, decimals and percents are types of numbers that can represent quantities
- The rules of math apply equally to algebraic equations; using our knowledge of mathematics, we can evaluate, analyze and describe what is happening in algebraic situations.

This course will be framed by our essential question: *How do I know I am growing as a learner?* Students will be asked to explore personal strategies that support their developing understanding of numerical concepts and strengthen their self-advocacy skills and confidence in math.

Summer Learning Beliefs:

Summer Learning provides an engaging learning environment where all students can challenge themselves academically and fulfill their learning goals. To ensure this, students will:

- abide by the student Code of Conduct
- adhere to the Academic Honesty policy
- adhere to the *Summer Learning* Student Engagement policy
- respect themselves and others
- attend every class and be punctual
- inquire, think, and participate to the best of their ability
- access technology in class when instructed to do so and for learning purposes only
- challenge themselves and have fun learning

All Summer Learning policies can be accessed at:
https://www.sd44.ca/school/summer/policies/Pages/default.

Course Syllabus:

Competencies	What the students will do: Through a variety of in-class activities, such as group problem solving, vertical learning, self-assessments, and the creation of personal learning portfolios, students will develop the following competencies: Reasoning and analyzing • Use logic and patterns to solve puzzles and play games • Use reasoning and logic to explore, analyze, and apply mathematical ideas • Demonstrate and apply mental math strategies • Estimate reasonably • Model mathematical processes in various contexts Understanding and solving • Apply multiple strategies to solve problems • Develop, demonstrate, and apply mathematical understanding through play, inquiry, and problem solving • Visualize to explore mathematical concepts • Engage in a variety of problem-solving routines Communicating and representing • Use mathematical vocabulary to contribute to discussions • Explain and justify mathematical ideas and decisions • Communicate mathematical thinking in many ways • Represent mathematical ideas in concrete, pictorial, and symbolic forms Connecting and reflecting • Reflect on mathematical thinking • Connect mathematical concepts to each other and to other areas and personal interests

Summative Assessments	What the students will understand: That number relationships are the foundation of mathematical understanding. They help us identify patterns, make generalizations, and solve problems. Students will complete a pre- and post- numeracy assessment that covers the foundational mathematical concepts. It is expected that, by participating in the course, students will understand: Students will also develop their understanding of the following concepts: • Relationships • Growth • Balance • Structure • Logic • Patterns • Communication • Quantity • Interaction • Representation • Simplification As our course is focused on growth and on the essential question: "*How do I know I am growing as a learner?*" Students are also expected to understand: • How to build a repertoire of strategies and apply them to their learning • How to advocate for their own learning by asking questions, building on prior knowledge, and persevering through challenges.
Content	What the students will know: • Number sense (place value, integers, basic operations, order of operations, representing numbers, exponents, square roots) • Parts of numbers (fractions, decimals, percentages, ratios, rates) • Algebra (linear relations, algebraic expressions, one and two-step equations) • Graphing (coordinate systems, representing data) • Shape and space (area, perimeter, surface area, volume)

Evaluation:

Students who meet expectations can…

- Demonstrate engagement and effort with the mathematical concepts covered
- Show growth by applying themselves throughout the course
- Show meaningful self-reflection on their skills and learning strategies

Students will not receive a letter grade or percentage for this course. Based on completion of assignments and final assessments, students will be assessed as either Meeting/ Not Meeting Expectations.

Celebration of learning:

The 2019 Celebration of Learning is shaped around "Connections".

Students will be exploring their understanding of key concepts outlined in the learning plan. Students will complete a template that requires them to represent their understanding through words, questions, big ideas, symbols, images, quotes, and real-life applications.

Our class will collaborate with all of Summer Learning on July 23rd to create a concept map in the agora.

Resources:

Binder
Scientific calculator
Graph paper
Ruler
Pencils
Pens
Eraser
Highlighter
Dividers (1 set of 5)