GRADE 7 MATHEMATICS CURRICULUM OUTLINE

Ms. Vardy 703

**Unit 1 Patterns and Relations Approximate Time - 5 weeks**

At the end of this unit, students should be able to:

*Determine and explain why a number is divisible by 2, 3, 4, 5, 6, 8, 9 or 10, and why a number cannot be divided by 0.*

*Explain the difference between an expression and an equation.*

*Evaluate an expression, given the value of the variable(s)*

*Demonstrate an understanding of patterns and their equivalent linear relations*

*Create a table of values from a linear relation, graph the table of values, and analyze the graph to draw conclusions and solve problems*

**Unit 2 Integers Approximate Time - 4 weeks**

At the end of this unit, students should be able to:

*Demonstrate an understanding of addition and subtraction of integers,*

*concretely, pictorially and symbolically. This will be achieved mainly through the use of colored tiles and number lines.*

**UNIT 3 Fractions, Decimals, and Percents Approximate Time - 6 weeks**

At the end of this unit, students should be able to:

*Demonstrate an understanding of the relationship between terminating decimals and fractions and between repeating decimals and fractions.*

*Compare and order fractions, decimals (to thousandths) and whole numbers by using:*

*- benchmarks*

*- place value*

*- equivalent fractions and/or decimals.*

*Demonstrate an understanding of the addition, subtraction, multiplication and division of decimals to solve problems.*

*Solve problems involving percentages from 1%to 100%.*

**Unit 4 Circles and Area Approximate Time - 5 weeks**

At the end of this unit, students should be able to:

*Demonstrate an understanding of circles by:*

*- describing the relationships among radius, diameter and circumference*

*- relating circumference to pi*

*- determining the sum of the central angles*

*- constructing circles with a given radius or diameter*

*- solving problems involving the radii, diameters and circumferences of circles.*

*Develop and apply a formula for determining the area of:*

*- triangles*

*- parallelograms*

*- circles.*

*Construct, label and interpret circle graphs to solve problems.*

**Unit 5 Operations with Fractions Approximate Time - 6 weeks**

At the end of this unit, students should be able to:

*Demonstrate an understanding of adding and subtracting fractions and mixed numbers, with like and unlike denominators, concretely, pictorially and symbolically*

**Unit 6 Equations Approximate Time - 5 weeks**

At the end of this unit, students should be able to:

*Model and solve, concretely, pictorially and symbolically, problems that*

*can be represented by linear equations*

*Demonstrate an understanding of preservation of equality by:*

*- modelling preservation of equality, concretely, pictorially and symbolically*

*- applying preservation of equality to solve equations*

*Model and solve, concretely, pictorially and symbolically, problems that*

*can be represented by one step linear equations of the form x + a = b, where a and b are integers.*

**Unit 7 Data Analysis Approximate Time - 4 weeks**

At the end of this unit, students should be able to:

*Demonstrate an understanding of central tendency and range by:*

*- determining the measures of central tendency (mean, median, mode) and range*

*- determining the most appropriate measures of central tendency to report findings.*

*Determine the effect on the mean, median and mode when an outlier is included in a data set.*

*Express probabilities as ratios, fractions and percentages.*

*Identify the sample space for a probability experiment involving two independent events.*

*Conduct a probability experiment to compare the theoretical probability*

*(determined using a tree diagram, table or other graphic organizer) and*

*experimental probability of two independent events*

**Unit 8 Geometry Approximate Time - 4 weeks**

At the end of this unit, students should be able to:

Perform geometric constructions, including:

- perpendicular line segments

- parallel line segments

- perpendicular bisectors

- angle bisectors.

Identify and plot points in the four quadrants of a Cartesian plane, using

integral ordered pairs.

Perform and describe transformations (translations, rotations or reflections) of a 2-D shape in all four quadrants of a Cartesian plane.

All times are upper limits and some units of work may be completed ahead of schedule depending on how well the concepts are retained in class. There is time built into each unit for review before each assessment.

For a more detailed outline of the curriculum visit the Government of Newfoundland and Labrador website: [www.ed.gov.nl.ca](http://www.ed.gov.nl.ca)

COURSE EVALUATION

The Course consists of eight units of work.

There will be a quiz at the end of each unit unless the unit covers a large number of concepts and/or takes a long period of time. In these cases there will be a mid-unit quiz. The students will be given at least one weeks’ notice of upcoming testing and will be given a review sheet or worksheets. There will also be a project during unit 4 and unit 7.

There will be four cumulative examinations written during the school year. The dates for the exams are November, February, April and the final exam in June.

There will also be formative assessments conducted weekly or bi-weekly using the Smart Response System (clickers). This will allow students/teachers to assess learning and address any areas where deficiencies have occurred.

EVALUATION SCHEME:

* November Assessment - 4 %
* February Assessment - 6%
* April Assessment - 10%
* Final Exam - 20%
* Unit Tests/Quizzes - 20%
* Projects - 20%
* Assignments/Work Sheets - 15%
* Homework - 5%