Geometry, Measurement and Finance 10

Course Outline

2012-2013

Resources: Text- (Pacific Educational Press) MathWorks 10 New Brunswick Edition

<http://pacificedpress.ca/files/books/MW10-NB-TR/index.html#/1/> (teacher resource)

<http://pacificedpress.ca/files/books/MW10-NB-SR/index.html> (student text)

Unit: Curriculum Reference:

Solving Problems requiring manipulation and application of Formulas:

Perimeter AN 1

Area

Volume

Capacity

Pythagorean Theorem

Primary trig ratios These continue throughout the semester

Income

Currency exchange

Interest

Finance charges

**Chapter 1 Unit Pricing & Currency Exchange (13 days)**

Unit Pricing and currency exchange using proportional reasoning: N1

Compare Unit prices

Determine best buy

Compare sales promotion techniques

Increase/Decrease in price depending on percentage discounts/ extra charges

Currency exchange – proportional reasoning

- Selling rate / purchasing rate

- estimate cost in Canadian currency while in foreign country

- convert between Canadian and foreign currency using formulas, charts or tables

**Chapter 2 Earning Income (7 days)**

Income: N2

Describe and identify various jobs that use different methods of earning income (advantages/disadvantages)

Hourly wage

Wage + tips

Piecework

Salary

Commission

Contract

Bonus

Shift premiums

Determine in decimal form, the total time worked in hours and minutes

Time

Time and one half

Double time

Determine Gross pay when given:

Base hourly wage with and without tips

Base hourly wages plus overtime (time and one half or double time)

Base hourly wage plus commission

Single commission

Describe the difference between Gross pay and Net pay

Canadian Pension Plan (CPP)

Employment Insurance (EI)

Income Tax deductions

Calculate Net Pay when given:

Health plans

Uniforms

Union Dues

Charitable donations

Payroll tax

**Chapter 3 Financial Services (13 days)**

Financial Institution Services: N3

Banking services

Online services

Types of accounts

Bank Charges

Service Charges

Describe advantages / disadvantages

Online banking

Debit card purchases

Describe ways to ensure security

Passwords

Encryption

Protection of personal identification number

Compound Interest: N4

Simple Interest I=Prt

Compound Interest (Describe the effect of different periods)

Compare simple and compound interest

Estimate, using the Rule of 72, the time required for a given investment to double in value

Credit Options: N5

Advantages and disadvantages of:

Bank / Store credit cards

Personal loans

Lines of credit

Overdraft

Issues related to credit:

Service charges

Interest

Payday loans

Sales promotions

**Chapter 4 System of Measurement and Conversions (17 days)**

Systeme International (SI) M1

Explain how the SI system was developed

Base units

Why are decimals used?

Identify contexts that involve the SI system

Conversions

Imperial System M2

Explain how the Imperial system was developed

Base units

Why are fractions used?

Identify contexts that involve the Imperial system

Conversions

Solve problems using the SI and Imperial systems M3

Determine referent measurements

Conversions between SI and Imperial systems

**Chapter 5 Mass, Temperature, & Volume (13 days) / Chapter 6 Surface Area, Volume & Capacity (13 days)**

Area of 2-D shapes M4

Decimal / fraction measurements

SI and Imperial systems

Convert from one unit squared to another unit squared

Regular and composite 2-D shapes including circles

Volume / Suface Area of 3-D shapes M5

Right cone, right cylinder, right prism, right pyramid or sphere

Find an unknown dimension when given volume or surface area

Composite 3-D objects

**Chapter 8 Trigonometry of Right Triangles (13 days)**

Pythagorean Theorem G2

Primary Trigonometric Ratios G3

Parallel, Perpendicular, Transversal lines and the angles formed between them G4

Identify pairs of angles and determine the value

Corresponding

Vertically opposite

Alternate interior

Alternate exterior

Interior angles on the same side of the transversal

Exterior angles on the same side of the transversal

Angles G5

Acute, right, obtuse, straight, reflex

Draw, replicate, construct, bisect and solve problems

Referent angles: 30, 45, 60, 90, 180

Analyze Puzzles and Games G1

Problem Solving strategies

Guess and c heck

Look for a pattern

Make a systematic list

Draw or model

Eliminate possibilities

Simplify the original problem

Work backwards

Develop alternative approaches