



Treasure Hunt – Ontario – K to 5

This Treasure Hunt contains directions to guide navigation through the **Content Menu**, the **Ontario Curriculum Menu** and the **Frameworks for Learning** of UMathX. An observation question is connected with each set of directions to assist you in experiencing a variety of learning environments in UMathX.

UMathX is created to address the following **Principles of Learning**:

- Interactive with audio;
- Encourage “grappling” to support a “growth mindset” - learning from mistakes;
- Multiple representations of concepts;
- Moving from concrete to pictorial to abstract;
- Pacing controlled by the learner;
- Using a wide variety of teaching strategies – options/suggestions within “Frameworks For Learning”

Record your observations in the “Your Answers” column and note the “Principle of Learning” featured in each lesson. Please appreciate that you may be navigating into the middle of a math topic and may be missing the background information needed to complete the lesson. In those situations, you may want to simply navigate to preceding lessons or concepts to find the needed information.

Log into UMathX and work your way through the Treasure Hunt in a non-linear, random order. An Answer Key is available at www.UMathX.com under Training.

Directions	Questions	Your Answers
<p>In the Content Menu, follow the path – Fractions> Equivalent Fractions</p> <p>Now select and work through the menu items within Equivalent Fractions listed below:</p> <p>Introduction - Square Pattern Blocks – Hexagon 1 The Clock – Introduction 1 Slicing – Example 1 An Explanation With Sets – Case1</p> <p>Then select- Memory Game</p>	<p>Make a series of mistakes to see how UMathX responds. List a hint that you felt was particularly helpful.</p> <p>Please double click on a line for audio.</p> <p>Would you use lessons within Equivalent Fractions to: a) Introduce a new concept, b) Reinforce a concept, or c) Intervention?</p> <p>Note the various approaches to understanding Equivalent Fractions. Note the variety of possible learning environments. Would you use a whole group, small group or individual learning?</p> <p>How would you use the Memory Game?</p>	
<p>In the Ontario Curriculum Menu, navigate to 4.NSN.01.09</p> <p>Click on a button labelled, Lessons. Find lesson:Square. Double Click on it. Then click on the Menu Icon on menu bar at the top of the screen. Click on 09 again. Click on the Frameworks button. Double Click on each of three Frameworks.</p> <p>Select 4.NSN.03.05 in the Ont Menu. Click on Lessons. Select Multiplication: Groups of 4. Work through few of 9 questions. Click on the Menu Icon at the top. Navigate to 3.OA.01.01 again. Select the framework - Introduce Multiplication Facts .. Groups of 4 Follow instructions in the framework.</p>	<p>The Content menu contains scaffolded lessons ... great for filling learning gaps. The Ont Menu contacts those items from from Ontario menu that fit Ont Curriculum. Compare tiered frameworks ... Equivalent Fractions -1, Equivalent Fractions -2 and Equivalent Fractions -3</p> <p>Note the SET approach in understanding multiplication. Note the relationship between the addition sentences and the multiplication sentences . Note value in following instructions on computer, recording on paper to lead to a pattern .. the multiplication table</p> <p>What is the path to this lesson within the Content menu?</p>	

Directions	Questions	Your Answers
<p>Note the 3 tiered frameworks – Multiplication Introduction – 1 Multiplication – Repeated Addition Multiplication Introduction - 2 Eggs in Bowls...Introduce x Multiplication Introduction – 3 Grouping Eggs in Bowls Glance over the 3 framework instructions.</p>	<p>Compare the repeated addition sentences and the multiplication sentences in Getting Started This method is one approach to help in understand multiplication.</p> <p>Note the scaffolding within the 3 frameworks as well as within the 3 corresponding lessons within UMathX.</p>	
<p>Go to www.umathx.com .. Resources to Frameworks. Find the framework, Multiply Two 2-Digit Numbers by Partial Products – 1 at ... Grapple through “Getting Started”. Work through part of the instructions in “Working In It” on the framework with the help of your computer and partner</p> <p>The framework above, leads to the Content Menu: (login and go there) Whole Numbers and Integers .. to Multiplication and Division of ..to Multiply by a 2 Digit Multiplier.. to Partial Product – Area .. to Ex 1 – With Blocks</p> <p>Now go to Ex 4 – Without Blocks Note .. refer back to picture to understand.</p>	<p>The “Getting Started” section, directs to work away from the computer first. It is suggested that they work with paper and base 10 blocks to model numbers ____ and ____ and ____</p> <p>Note that in “Getting Started” one needs to grapple to find an answer. Then in “Working In It”, UMathX on computer helps toward solutions.</p> <p>Check that the code for this lesson within the Ontario menu is 5.NSN.03.03 This lesson should not be missed. Note when ones goes to Ex 1 and then to Ex. 4 . Comment on how .. Ex 1 to Ex 4 help in understanding.</p> <p>Then check framework .. Multiplying Decimals – Partial Products</p>	
<p>From the Ontario Menu, select 4.NSN.01.06 First select the 3 Tiered Frameworks- Fraction Introduction – Pattern Blocks -1 Fraction Introduction - Pattern Blocks -2 Fraction Introduction – Pattern Blocks -3</p>	<p>The frameworks are located in 2 places. What are they?</p> <p>If possible print out the 3 frameworks.</p> <p>How are the frameworks the same?</p> <p>How are the frameworks different?</p> <p>Note the scaffolding .. in tiered lessons</p>	
<p>In the Content Menu, hover over: Whole Numbers and Integers to Multiplication and Division of Whole Numbers to Divide by Single Digit Divisor to Fair Sharing</p>	<p>Work through both : Fair Sharing Ex. 1 .. with blocks and Fair Sharing Ex 2 .. without blocks</p> <p>Find fair sharing in Ont Menu.. 5.NSN.03.04 Find both the lesson and the framework. Comment on scaffolding from Ex 1 to Ex 2</p>	
<p>Find & work through the framework ... Subtract 3 Digit Numbers Concretely Subtraction with Regrouping #3 at www.umathx.com .</p> <p>See Frameworks under Resources.</p>	<p>In the Ontario Menu, go to 3.NSN.03.02 Find the Lesson & the Framework. In “Working At It”, we suggest using paper, real base 10 blocks and UMathX in the computer. Would you suggest using all at the same time? Comment on the critical regrouping step where we see concrete and abstract simultaneously.</p> <p>How many different methods of subtraction are listed in this section?</p>	

A Variety of Examples to Check

Recall that Frameworks are available at www.umathx.com under “Resources”

1. **Problem Solving in UMathX** is often embedded within various operation concepts. Below is a sample.
Work through the following paths in the UMathX menu...

Whole #s and Integers	-Add & Subtract Whole #	-Word Problems by Various Methods
		-More Word Problems
		-Two Step Word Problems
	-Multiply & Divide Whole #	-Word Problems by Various Methods
		-Two Step Word Problems

Following are examples of Frameworks:

Addition & Subtraction of Whole #s – Two Step Word Problems
Multiplication & Division of Whole #s – Two Step Word Problems

2. Work through the following Set of Frameworks and the corresponding sections in **UMathX**.
Note the Scaffolding in Tiered Lessons as well as the Variety of Methods in Adding 3 Numbers.

Word Problems – Add 3 Numbers -1
Word Problems – Add 3 Numbers -2
Word Problems – Add 3 Numbers -3

3. Work through the following Set of Frameworks and the corresponding sections in **UMathX**.
Note the Scaffolding.

Addition of Multi-Digit Whole Numbers – Right to Left & Problem Solving in the Framework
Add 2 Digit Numbers...Concretely – Addition without Regrouping
Subtract 2 Digit Numbers...Concretely – Subtraction without Regrouping
Subtract 3 Digit Numbers...Concretely – Subtraction with Regrouping #3
Subtraction of Whole Numbers – Right to Left

4. Work through the following Set of Frameworks in **Place Value** and in **Rounding** in **UMathX**.
Note the Scaffolding in Tiered Lessons

Represent # in Many Ways – Place Value -1	Rounding Large Numbers – To the Nearest Ten
Represent # in Many Ways – Place Value -2	Rounding Large Numbers – To the Nearest Hundred
Represent # in Many Ways – Place Value -3	Rounding Large Numbers – To the Nearest 10, 100, 1000

5. Work through the following Set of Frameworks and the corresponding sections in **UMathX**.
Note the Scaffolding.

Decimals To Tenths	Equivalent Decimals – Tenths & Hundredths
Decimals to Hundredths	Equivalent Decimals – Hundredths & Thousandths
Decimals to Thousandths	

Decimals – Expanded Notation – To Hundredths
Decimals – Expanded Notation – To Thousandths

6. Work through the following Set of Frameworks and the corresponding sections in **UMathX**.
Note the Scaffolding and Tiered Lessons.

Percent as a Fraction -1	Percent as a Decimal -1	Decimal Addition – Right to Left -1
Percent as a Fraction -2	Percent as a Decimal -2	Decimal Addition – Right to Left -2
Percent as a Fraction -3	Percent as a Decimal -3	Decimal Addition – Right to Left -3

7. Work through the following Paths to **Measurement Sections** in **UMathX**.

Measurement

Introduction to Measurement

- Measurement in the News
- A Glimpse into the Past
- Distance: Guess and Measure #1 & #2
- Distance: Fractional Units
- Measurement with a Ruler – Centimeters

- A Pencil
- The Ruler
- Calculating Distances
- Scale

Click on Point
Click & Drag

- Metric Conversions - Length