

## UMathX QUICKSTART

## A QUICKSTART into UMathX (K to Algebra 1)

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## STEP 1 – An Introduction

- “UMathX by Neufeld”, 10<sup>th</sup> version of “Understanding Math”, is an **Exploration of Mathematics Content** and **Teaching Methodology** within a digital learning environment K to Algebra 1. It offers over 3500 lessons where implementation is modeled through 3 part tiered lessons in a variety of learning environments supporting a growth mindset, encouraging learners to grapple with concepts towards constructing new knowledge through understanding – concrete to abstract.
- “UMathX by Neufeld” Constructs Meaning through two menus. The **Content Menu** fills gaps by scaffolding mathematics along a conceptual path, across grade levels. The **Curriculum Menu** offers lessons aligned to curricula. 3 part tiered lessons, “frameworks for learning”, offer solutions to intervention. **Data Analysis** redirects learning in next steps through Content & Curriculum Tests.
- UMathX by Neufeld is partnering with Faculties of Education to **Conduct Research** on **Constructing Understanding** of **Content** as well as on **Teaching Methodology**.



For Home and School  
K to Algebra 1 (10th Grade)

Build Knowledge for Student / Parent / Teacher



“Content and teaching methodology are exceptional.”  
-Faculties of Education

Lessons online and on paper

### ● **The Learning Environment:**

“As a former Texas district mathematics leader, I promoted the district-wide purchase and use of previous versions of this system due to modeling, strategies and visual connections.” Dr M.K.

“Our teachers have used it extensively with parents, teachers and students. UMathX is perfect to support research and instruction to teacher candidates.”  
S.C. TDSB Toronto



L Link  
MI



N Brown  
DC



C Collins  
MD



N McNeil-West  
DC



L Skjold  
OH



J Hastings  
OH



A Golle  
OH

*“UMathX helps students gain conceptual understanding better than any other program. Content and Teaching Methodology are exceptional.”* Master Teachers, Faculties of Education

*“UMathX is by far the most effective learning tool for mathematics that I have seen.”*  
JS - Australia

## STEP 2: Login to UMathX

Open up the FIREFOX browser on your laptop or desktop computer.

Key in [www.umathx.com](http://www.umathx.com) and check the UMathX website briefly.

Now key in [www.umathx.com/preview](http://www.umathx.com/preview)

Use the generic login, **countt**

Use the generic password, **umathx**

We will lead you to Explore:

1. A Content Menu to FILL THE GAPS
2. A Curriculum Menu aligned to your curriculum
3. “Frameworks for Learning” .. 3 part lessons

In the full version, there are 3 Login Types: **student, teacher, administrator.**



## THE CONTENT MENU ...

ELEMENTARY Example:

<PROCEED> IS ...

the way that UMathX controls the pace.

It ensures attention to tasks and separates the pieces of the concept being built.

## STEP 3: Explore Menus & Frameworks (Ask for webinar if you wish)

- Select “CONTENT Menu”

Follow the path below in order:

1. **Fractions** > Equivalent Fractions > Pattern Blocks. Click on (arrow up)(arrow right)(arrow left)(double arrow up) **Content Menu** .. Fractions > Equivalent Fractions > Pattern Blocks > Hexagon1 to work through lesson, Hexagon1

2. Double click on “This is one Whole Hexagon” on the first page to have the line read and highlighted.

When <proceed> appears on the bottom right, click on it.

Key in “1”, then press <enter>. Key in “2” then press <enter>. Now click on <proceed>.

Enter a number ... try the number .. “2” .. three times before entering the correct answer.

**NOTE- Encourage students to risk. A mistake is an opportunity to learn.**

The **Frameworks** are 3 part model lessons on paper. They give ideas for implementing UMathX.

## THE CURRICULUM MENU ...

### ELEMENTARY Example:

### THREE PART MODEL LESSONS (FRAMEWORKS)

are meant to:

- Tie on-screen knowledge to it's concrete expression off-computer

Provide support for **RTI**, **STEAM** models.

## CONTENT MENU

### 3. Click on the 2<sup>nd</sup> icon at the top of the screen, MENU.

Now navigate to **Hexagon1** and complete the lesson.

A blue screen with two options – **GO BACK** .. or .. **CONTINUE**, marks the end of a lesson. Return to the **Main Menu**.

- **Select “CONTENT Menu” and again follow the path below in order:**

**Content Menu**..Fractions > Equivalent Fractions > Pattern Blocks >

**The green pencil beside “Hexagon1”** indicates that a corresponding printable **framework** is available. **Click on pencil.**

**Option 1:** After printing it, follow the lesson outline on the framework.

**Option 2:** Earlier (above) you followed the lesson “**Hexagon1**” within UMathX.

Return to the **Main Menu**.

- **Select “CONTENT Menu”. and follow the path below in order:**

**Fractions** > The Meaning of Fractions > Introduction... Think, Write, Say.

**The green pencil beside “Circles”** indicates that a corresponding printable **framework** is available. **Click on the pencil.**

**Option 1:** After printing it, follow the lesson outline on the framework.

**Option 2:** Follow the lesson “**Circles**” within UMathX.

Return to the **Main Menu**.

- **Select the “Common Core CURRICULUM Menu”. \*\*\***

**Follow this path in order:**

**1. Grade 3**, then **3.NF > 01**.

Click (arrow up)(double arrow up).

**2. Select Common Core.**

**3. Click .. Grade 3 > 3.NF > 01 > 03 > b**

You have now reached suggested lessons to fit **3.NF.01.03b**

**4. You now have 2 choices – Tab 1 – “Lessons” and Tab 2 – “Frameworks”**

**5. Select Lessons.**

You are at lessons selected from the **Content Menu** for **3.NF.01.03b**.

Lessons are in order that we recommend that they be taught.

**6. Double Click the 3<sup>rd</sup> lesson- Fractions > Equivalent Fractions > Pattern Blocks > Hexagon1 (Remember this?)**

Do a few <proceeds> into the lesson.

**7. Exit the lesson** by clicking on the 2<sup>nd</sup> icon at the top of the screen, **MENU**.

You are returned to the **Selection Menu** within the **Curriculum Selection, 3.NF.01.03b**, ready for another choice.

**8. Click on tab “Frameworks”.**

You see **tiered 3 part model printable lessons** which give ideas on **implementing UMathX**.

**9. Double-Click on ... Equivalent Fractions -1.pdf.**

**Note the 3 part lesson.** It can be printed in color or in black and white double sided to save on paper.

This can be given to a student or a pair of students as a plan for implementation of UMathX.

Note that the instructions to the student(s) direct them within the **Content Menu**.

**10. Return to UMathX**, by moving the mouse to the top of the screen and click on the **X** for **Equivalent Fractions -1.pdf**.

- **Select “Help Me Get Started” on the Main Menu.**

“**UMathX Videos**” will appear. **Select and play the video, “Frameworks for Learning”**  
**Frameworks save much time** by providing lessons and lesson ideas ready to be used.

- **Select “CONTENT Menu”.**

**Follow this path in order:**

**Graphing > Linear Relations > The Elastic Example**

**Note the green pencil icon** beside the lesson, “**Setup Equations**”. Click on it to display the **framework**.

**Option 1:** After printing it, follow the lesson outline on the **framework**.

**Option 2:** Follow the lesson “**Setup Equations**” within UMathX.

Return to the **Main Menu**.

CORRESPONDING  
CURRICULUM  
MENU ...

SECONDARY  
Example:

Framework Role:  
Model Lessons  
Implement:  
RTI ... 3 tiers  
STEM  
IDEAS

A FRAMEWORK  
offers model lessons  
often tiered to  
implement UMathX

It saves the teacher  
time and effort.

Frameworks are 2  
pages saved in  
UMathX. One can print  
in b&w or color.

- Select the **Common Core CURRICULUM Menu**.  
Follow the path to **8.F.02.04**  
Click on tab "**Lessons**".  
Double Click the lesson- **Graphing > Linear Relations > The Elastic Example > Setup Equations**  
Click on the tab "**Frameworks**".

**DIFFERENTIATION:** tiered 3 part lessons, **Linear Relations – Elastic -1, -2, -3** for a suggestion to implement UMathX.

- "**Find a Framework**" in 4 Possible Ways:
  1. In the **Content Menu**, a **green pencil** beside a lesson name indicates that a corresponding printable framework is available.
  2. In the **Selection Menu**, within a **Curriculum Menu**, the appropriate framework is available.
  3. In the **Main Menu**, select "**View a Framework**"
  4. **Navigate to .. [www.umathx.com/frameworks](http://www.umathx.com/frameworks)**

**Each Framework:** .. is on 1 double sided printable page in color or in black and white  
.. has 3 parts: **Get Started ... Working At IT ... Reflect and Connect**

A Framework is a model lesson on paper, sometimes tiered(arrow)already prepared for you.



STEP 4: Planning a Lesson with UMathX

- **OPTION 1 – Filling the Gap**  
 First.. Select the **CONTENT Menu**. Choose the path to a particular lesson or set of lessons.  
**Example:** Place Value>5.)Identify Place Value Patterns(to 1000)>D>Expanded Notation  
 Second.. **Find a Framework. (if exists)** Note a green pencil icon beside..1) **Expanded Notation**  
 This indicates that a corresponding model lesson .. a framework, is available.  
 Click on the framework and print it, possibly 1 for every 2 or 3 students in the group.  
 If it is a tiered lesson noted by 1, 2, 3 .. and Pyramid .. possibly print all 3 for a class.
- **OPTION 2 – Attending to your Curriculum**  
 First ..Select the **COMMON CORE CURRICULUM Menu**. Use your district Curriculum Document  
 Second .. Click on the **LESSON** button to make list of appropriate lessons appear.  
 Third .. Click on the **FRAMEWORKS** button for appropriate frameworks (if they exist). Print.

**EXAMPLES IF NEEDED of PLACE VALUE lessons for Option 2 .. within Common Core Curriculum**

- 2.NBT.01.01a – Place Value>Identify Place Value Patterns(to 1000)>D>Expanded Notation  
(Place Value to 1000 – Expanded Notation)
- 2.NBT.01.03 –Place Value>Identify Place Value Patterns(To 100)>C>Pictures To Numbers #2
- 2.NBT.01.03–Place Value>Identify Place Value Patterns(To 100)>C>Tens & Ones To Pictures #2
- 2.NBT.01.03–Place Value>Identify Place Value Patterns(To 100)>C>Numbers To Pictures #2
- 2.NBT.01.03–Place Value>Identify Place Value Patterns(To 100)>C>2 Digit Numbers – Different Ways  
(Place Value – 2 Digit Numbers-Different Ways)
- 2.NBT.01.03- Whole Numbers & Integers>The Meaning Of Whole Numbers>Seeing Number> To Hundreds>Ex1
- 2.NBT.01.03- Whole Numbers & Integers>The Meaning Of Whole Numbers>Expanded Notation To 999>Ex 1
- 3.NBT.01.01- Whole Numbers & Integers>The Meaning Of Whole Numbers>Rounding Large Numbers>Concepts  
(Rounding Large Numbers – To Nearest Ten – Concept 1, Concept 2, Example 1, Example 2)
- 3.NBT.01.01- Whole Numbers & Integers>The Meaning Of Whole Numbers>Rounding Large Numbers>Concepts

PLAN A LESSON:

We want to use  
frameworks if  
possible!

OPTION 1  
(fill GAP)  
1<sup>ST</sup> CONTENT menu  
2<sup>ND</sup> FRAMEWORK

OPTION 2  
(follow curriculum)  
1<sup>ST</sup> CURRICULUM menu  
2<sup>ND</sup> lesson paths in CONTENT menu.  
3<sup>RD</sup> FRAMEWORKS

(Rounding Large Numbers – To Nearest Hundred – Concept 3, Example 3)  
(Rounding Large Numbers – To Nearest 10, 100 And 1000)

- 4.NBT.01.01- Whole Numbers & Integers>The Meaning Of Whole Numbers>Place Value To 999,999>Neighbors (Place Value To 999,999 – Neighbors)
- 4.NBT.01.01- Whole Numbers & Integers>The Meaning Of Whole Numbers>Expanded Notation>To 999> Ex1 (Expanded Notation – To 999)
- 4.NBT.01.01- Whole Numbers & Integers>The Meaning Of Whole Numbers>Expanded Notation>To 9999> Ex 1 (Expanded Notation – To 9999)
- 4.NBT.01.01- Whole Numbers & Integers>The Meaning Whole Numbers>Expanded Notation>Write As Numerals (Expanded Notation – Write As Numerals)
- 5.NBT.01.01 - Whole Numbers & Integers>The Meaning Of Whole Numbers>Place Value To 999,999>Neighbors (Place Value To 999,999 – Neighbors)
- 5.NBT.01.03a- Fractions> Intro To Dec> Ones, Tenths, Hundredths, Thousandths>Dec To Thousandths> Ex1, Ex2 (Decimals To Thousandths)

**PLAN A LESSON:**

We want to use frameworks if possible!

**OPTION 1**  
(fill GAP)  
1<sup>ST</sup> CONTENT menu  
2<sup>ND</sup> FRAMEWORK

**OPTION 2**  
(follow curriculum)  
1<sup>ST</sup> CURRICULUM menu  
2<sup>ND</sup> lesson paths in CONTENT menu.  
3<sup>RD</sup> FRAMEWORKS

**TEST ACCESS:**  
Main Menu (first page)  
Activity Window

**TEST TYPES:**  
Common Core Test  
Content Test  
Custom Test

**BOOKMARKING**

**DATA ANALYSIS**  
Lessons & Tests  
Growth, Useage

**ADDITIONAL LESSONS IF NEEDED within the Common Core –**

- 2.NBT.02.05 – Operations>14) Add 2 Digit...Concretely-> C (Add 2 Digit Numbers-Concretely-With Regrouping)
- 2.NBT.02.07 – Operations> 23) Subt 3 Digit Numbers.. Concretely> D (Subtraction With Regrouping #3)
- 3.NF.01.01 – Fractions> The Meaning of Fract> Intro...Think, Write, Say> Circles(Fraction Intro- Pattern Blocks-1)
- 4.NBT.02.05 -Whole # & Int> Mult & Div of Whole Nu> Mult by 2 Digit Mult> Part Prod-Area> Ex 1 (Mult 2 digit.PP24x37)  
- Whole # & Int> Mult & Div of Whole Num> Mult by 2 Digit Mult> Partial Prod-Area> Ex 4-Without Blocks
- 5.NF.02.04a – Fractions> Multiplying Fractions> Developing the Rule> Ex. 3 (Multiply Proper Fractions -1)
- 6.NS.02.03 - Fract> Mult & Division of Dec> Mult by Partial Products Area>Ex 1 (Mult Dec by Partial Prod 2.4 x 3.7)
- 6.RP.01.03b –Fractions > Ratios & Proportions> Ratio, Tape Diagram> Introduction (Ratios & Proportions - Tape)  
And ... Fractions> Ratios & Proportions > Ratio Table> Introduction 1 & 2 (Ratio – Ratio Tables\_Intro-2)
- 7.G.02.06- Meas & Geom> Per & Area of Polyg> Areas of Polyg> Polyg to Simple Shapes> Ex 1 (Polygons Broken -1)
- 7.RP.01.03 – Fractions> Ratios and Proportions> Proportions> Ex 3 Marbles (Estimation U Proportions)
- 8.F.02.05-Graphing>Read & Sketch Graphs>Graphs Without Scale> Ex 7, 9, 11 (Graphs Without – Creating -1)
- 8.EE.02.05 – Graphing > Slope of a Line > Slope > Steepness Factor (Slope In the Real World)
- 8.F.02.04 – Graphing> Eq Str Line > Word Prob-Applic> Walker> (Slope & Line –Walk in Real World-1)
- A.CED.01.01 – Graphing> Quadratic Functions> Max Cage Area> Trial & Error to Summary (Quad-Max Cage-1)
- A.CED.01.02 – Algebra> Patterns, Patterns, Patterns> Patterns to Formulas> Ex. 4 (Patterns with Toothpicks)  
(Challenge) – Algebra> Patterns, Patterns, Patterns> Sum of Seq –Geom – Real Life (Sum of Geom Seq)

**STEP 5: Tests / Data Analysis. Not Available on Preview. Suggest Webinar Training**

Individual can learn from mistakes and be directed to suggested lessons.

- **ACCESS:** Landing Page .. Click on “Do a Test”  or Activity Window .. Click on the  icon



- **TYPES:** **Common Core Tests** – coverage within curriculum for a specific grade  
**Content Tests** cover items within a certain content area across grade levels  
**Custom Tests** are generated by the teacher by choosing any specific content.

- **Analyze Data” in the Main Menu.** The “Data Module” requires data by students. The **full version** allows students to do lessons and tests with results recorded into perpetuity. A teacher or student can then check student data .. **tests, lessons, useage, growth and more.**