

# 5th Grade STAAR Crunch

<p><b>Supporting Standards &amp; Readiness Standards</b></p>	<p><b>UMATH X Suggested Lessons and Activities</b></p> <p>Access <b>UMath X</b> with the URL that your group was given.  <b>Login</b> with a valid user name and password.  <b>Navigate</b> to the lessons listed for each standard using the menu on the left.</p> <p>Go to <a href="http://www.umathx.com">www.umathx.com</a> for: <b>Frameworks for Learning</b></p>
<p><b>Category 1: Numerical Representations and Relationships</b>          The student applies mathematical process standards to represent, compare, and order rational numbers and understand relationships as related to place value.</p>	
<p><b>(5.2.A)</b> represent the value of the digit in decimals through the thousandths using expanded notation and numerals</p>	<p><b>Fractions</b></p> <p>Introduction to Decimals          Ones, Tenths, Hundredths, Thousandths          Decimals to Thousandths          Examples 1 - 5</p> <p>Expanded Notation          To Hundredths          Examples 1 - 2          To Thousandths          Examples 1 - 2</p> <ul style="list-style-type: none"> <li>• <b>Frameworks:</b>  <b>Decimals To Thousandths</b>  <b>Decimals - Expanded Notation - To Thousandths</b></li> </ul>

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<p><b>(5.2.B)</b> compare and order two decimals to thousandths and represent comparisons using the symbols <math>&gt;</math>, <math>&lt;</math>, or <math>=</math>  <b>Readiness Standard</b></p>	<p><b>Fractions</b>          Introduction to Decimals              Comparing Decimals                  Examples 1 - 4          Ordering Decimals              Examples 1- 5</p> <ul style="list-style-type: none"> <li>• <b>Frameworks:</b>  <b>Compare and Order Decimals</b>  <b>Comparing Decimals</b></li> </ul>
<p><b>(5.2.C)</b> round decimals to tenths or hundredths</p>	<p><b>Fractions</b>          Introduction to Decimals          Rounding Decimals              Examples 1 - 5              Special Case 1              Special Case 2              Summary</p> <ul style="list-style-type: none"> <li>• <b>Frameworks:</b>  <b>Rounding Decimals - To the Nearest Tenth</b>  <b>Rounding Decimals - To the Nearest Hundredth</b></li> </ul>

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<p><b>(5.4.A)</b> identify prime and composite numbers</p>	<p><b>Fractions</b>            Products, Multiples, Factors            Factors            Prime Numbers            Prime Numbers: 2, 3, 5, 7, 11, 13, 17, 19            Composite Numbers            Venn Diagrams... Factors            Examples 1 - 3</p> <ul style="list-style-type: none"> <li>• <b>Frameworks:</b>  <b>Prime and Composite Numbers</b>  <b>Prime Numbers</b></li> </ul>
<p><b>(5.4.E)</b> describe the meaning of parentheses and brackets in a numeric expression</p>	<p><b>Whole Numbers &amp; Integers</b>            Order of Operations            Why Use Order of Operations Whole Numbers?            Please Excuse My Dear Aunt Sally            Example Questions – Whole Numbers            Examples 1 – 10</p> <ul style="list-style-type: none"> <li>• <b>Frameworks:</b>  <b>Order of Operations – Whole Numbers – Word Problems</b></li> </ul>
<p><b>(5.4.F)</b> simplify numerical expressions that do not involve exponents, including up to two levels of grouping  <b>Readiness Standard</b></p>	<p><b>Whole Numbers &amp; Integers</b>            Order of Operations            Example Questions – Whole Numbers            Examples 1 - 10</p> <ul style="list-style-type: none"> <li>• <b>Frameworks:</b>  <b>Order of Operations – Whole Numbers – Word Problems</b></li> </ul>

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Category 2: Computations and Algebraic Relationships	
<p><b>(5.3.A)</b> estimate to determine solutions to mathematical and real-world problems involving addition, subtraction, multiplication, or division</p>	<p><b>Whole Numbers &amp; Integers</b>            Estimation with Compatible Numbers            Definition &amp; Guided Example            Examples 1 - 5</p> <ul style="list-style-type: none"> <li>• <b>Frameworks:</b></li> </ul>
<p><b>(5.3.B)</b> multiply with fluency a three-digit number by a two-digit number using the standard algorithm</p>	<p><b>Whole Numbers &amp; Integers</b>            Multiplication and Division of Whole Numbers            Multiply by a Two Digit Multiplier            The Standard Method            Questions 4 &amp; 5</p> <ul style="list-style-type: none"> <li>• <b>Frameworks:</b>  <b>Multiply by a Two-Digit Multiplier_Standard Method</b></li> </ul>
<p><b>(5.3.C)</b> solve with proficiency for quotients of up to a four-digit dividend by a two-digit divisor using strategies and the standard algorithm</p>	<p><b>Whole Numbers &amp; Integers</b>            Multiplication and Division of Whole Numbers            Divide by a Single Digit Divisor            Fair Sharing            Example 1 - With Blocks            Example 2 - Without Blocks            Questions 1 - 6            Divide by Partial Quotients            Partial Quotient – Examples 1 – 4</p> <ul style="list-style-type: none"> <li>• <b>Frameworks:</b>  <b>Divide by a Single Digit Divisor</b></li> </ul>

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<p><b>(5.3.D)</b> represent multiplication of decimals with products to the hundredths using objects and pictorial models, including area models</p>	<p><b>Fractions</b>            Multiplication and Division of Decimals                Multiply by Repeated Addition                    Examples 1 - 2                Special Case - Multiply a Decimal by a Whole Number                    Examples 1 and 2 with Blocks                Multiply by Partial Products Area                    Example 1 and 2 with Blocks</p> <ul style="list-style-type: none"> <li>• <b>Frameworks:</b>  <b>Multiply Decimals by Repeated Addition</b>  <b>Multiply Decimals by Partial Products</b>  <b>Multiplying Decimals_Partial Products – Distributive Method</b></li> </ul>
<p><b>(5.3.E)</b> solve for products of decimals to the hundredths, including situations involving money, using strategies based on place-value understandings, properties of operations, and the relationship to the multiplication of whole numbers  <b>Readiness Standard</b></p>	<p><b>Fractions</b>            Multiplication and Division of Decimals                Multiply by Partial Products Area                    Questions 1 -2                Distributive Method                    Examples 1 – 2                    Questions 1 – 2                Decimals Around Us Word Problems                    Example 1 – Oranges                    Example 2 – Bananas                    Example 3 - Cycling</p> <ul style="list-style-type: none"> <li>• <b>Frameworks:</b>  <b>Multiply Decimals by Repeated Addition</b>  <b>Multiply Decimals by Partial Products</b>  <b>Multiplying Decimals_Partial Products – Distributive Method</b></li> </ul>

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<p><b>(5.3.F)</b> represent quotients of decimals to the hundredths, up to four-digit dividends and two-digit whole number divisors, using objects and pictorial models, including area models</p>	<p><b>Fractions</b>            Multiplication and Division of Decimals            Pictorial Models for Decimal Division            Tenths                Examples 1 – 2            Hundredths                Examples 1 - 2</p> <ul style="list-style-type: none"> <li>• <b>Frameworks:</b>  <b>Pictorial Models for Decimal Division_Tenths</b>  <b>Pictorial Models for Decimal Division_Hundredths</b></li> </ul>
<p><b>(5.3.G)</b> solve for quotients of decimals to the hundredths, up to four-digit dividends and two-digit divisors, using strategies and algorithms, including the standard algorithm  <b>Readiness Standard</b></p>	<p><b>Fractions</b>            Multiplication and Division of Decimals            Partial Quotients                Examples 1 – 4            Fair Sharing Long Division                Examples 1 – 2                Questions 1 - 4</p>

# 5th Grade STAAR Crunch

**(5.3.H)** represent and solve addition and subtraction of fractions with unequal denominators referring to the same whole using objects and pictorial models and properties of operations

## Fractions

### Adding Fractions

Fraction Strips

Concepts 1 - 3

The Clock

Examples 1 - 2

The Lowest Common Denominator

Examples 1 - 2

Word Problems

Eating Candy

Goal Scoring

Taking a Walk

Fraction Card Game

Magic Square

### Subtracting Fractions

Pattern Blocks

Hexagons 2 & 3

Summary

The Clock

Examples 1 - 3

Fraction Strips

Concept 2

Subtracting Fractions on a Number Line

Example 3

The Lowest Common Denominator

Examples 1 - 2

Word Problems

Pedro and Alex's Race

Washing the Cars

Planting a Garden

- **Frameworks:**

**Adding Fractions - The Lowest Common Denominator**

**Adding Fractions - Word Problems - Unlike Denominators**

**Subtracting Fractions - The Lowest Common Denominator**

**Subtracting Fractions - Word Problems**

# 5th Grade STAAR Crunch

<p><b>(5.3.I)</b> represent and solve multiplication of whole number and a fraction that refers to the same whole using objects and pictorial models, including area models</p>	<p><b>Fractions</b>          Multiplying Fractions              Developing the Rule              Ex. 1 - Whole Number X Unit Fraction              Ex. 2 - Whole Number X Any Fraction</p> <ul style="list-style-type: none"> <li>• <b><u>Frameworks:</u></b>  <b>Multiplying Fractions and Whole Numbers</b></li> </ul>
<p><b>(5.3.J)</b> represent division of a unit fraction by a whole number and the division of a whole number by a unit fraction such as <math>1/3 \div 7</math> and <math>7 \div 1/3</math> using objects and pictorial models, including area models</p>	<p><b>Fractions</b>          Dividing Fractions              Modeling Examples              Model 1: Pizza              Real World Problem with Number Lines              Servings of Yogurt - Whole Number/Unit Fraction              Sharing Fudge - Unit Fraction/Whole Number</p> <ul style="list-style-type: none"> <li>• <b><u>Frameworks:</u></b>  <b>Divide Fractions – U nit Fraction by Whole # with # Lines</b>  <b>Divide Fractions – Whole # by Unit Fraction with # Lines</b></li> </ul>



# 5th Grade STAAR Crunch

**(5.3.K)** add and subtract positive rational numbers fluently

**Readiness Standard**

## Fractions

Adding Fractions

Word Problems

Alexander's Friend

Eating Candy

Goal Scoring

Taking a Walk

Fraction Card Game

Magic Square

Subtracting Fractions

Word Problems

Pedro and Alex's Race

Washing the Cars

Planting a Garden

Improper Fractions and Mixed Numbers

Adding Mixed Numbers

Methods 1 & 2

Subtracting Mixed Numbers

Methods 1 & 2

Borrowing

Fraction Card Game

- **Frameworks:**

**Adding Fractions – The Lowest Common Denominator**

**Adding Fractions – Word Problems – Unlike Denominators**

**Subtracting Fractions – The Lowest Common Denominator**

**Subtracting Fractions – Word Problems**

# 5th Grade STAAR Crunch

(5.3.K) *continued*

## Fractions

### Addition and Subtraction of Decimals

#### Adding Decimals

Method 1 - Partial Sums

Examples 1 - 6

Method 2 - Columns

Examples 1 - 6

Method 3 - Right to Left

Examples 1 - 6

#### Subtracting Decimals

Method 1 - Right to Left

Examples 1 - 6

Method 2 - Trade First

Example 1 - 6

Method 3 - Add Up

Example 1 - 8

Method 4 - Add Up to Zero

Examples 1 - 2

### Decimals Around Us

#### Length in Metric Units

Examples 1 - 5

#### Pencils

Example 1 - 5

#### Money

Example 1 - 5

#### Track Meet

Example 1 - 4

#### School Supplies

- **Frameworks:**

Adding Decimals - Right to Left

Decimal Addition - Right to Left - 1

Decimal Addition - Right to Left - 2

Decimal Addition - Right to Left - 3

Subtracting Decimals - Right to Left

# 5th Grade STAAR Crunch

<p><b>(5.3.L)</b> divide whole numbers by unit fractions and unit fractions by whole numbers <b>Readiness Standard</b></p>	<p><b>Fractions</b> Dividing Fractions Real World Problem with Number Lines Servings of Yogurt - Whole Number/Unit Fraction Sharing Fudge - Unit Fraction/Whole Number Modeling Examples Model 1: Pizza</p> <ul style="list-style-type: none"> <li>• <b>Frameworks:</b> <b>Divide Fractions – Unit Fraction by Whole # with # Lines</b> <b>Divide Fractions – Whole # by Unit Fraction with # Lines</b></li> </ul>
<p><b>(5.4.B)</b> represent and solve multi-step problems involving the four operations with whole numbers using equations with a letter standing for the unknown quantity <b>Readiness Standard</b></p>	<p><b>Equations</b> Problem Solving Area of Walls Chemistry Pool Puzzler The First Problem</p>
<p><b>(5.4.C)</b> generate a numerical pattern when given a rule in the form <math>y = ax</math> or <math>y = x + a</math> and graph <b>Readiness Standard</b></p>	<p><b>Algebra</b> Patterns, Patterns, Patterns Generating &amp; Comparing Number Patterns Example 1 Generate the Pattern Create Ordered Pairs Graph Example 2 Generate the Pattern Create Ordered Pairs Graph</p> <ul style="list-style-type: none"> <li>• <b>Frameworks:</b> <b>Generating &amp; Comparing Number Patterns</b></li> </ul>

# 5th Grade STAAR Crunch

## Category 3: Geometry and Measurement

**(5.4.H)** represent and solve problems related to perimeter and/or area related to volume  
**Readiness Standard**

### Measurement & Geometry

Perimeter and Area of Polygons

Walk Around a Polygon

Joan Walks

Perimeter of Various Shapes

Examples 1-3

Perimeter of the Ranch

Length of Metal Strip

Find the Perimeter

Introduction to Area

Units

Unit Square

The Square Grid

Tiles to Cover a Floor

Examples 1 - 2

Estimate

Examples 1-3

Areas of Polygons

Area of a Rectangle

Concept

Examples 1 - 4

Solids... Volumes and Surface Area

Volume of a Solid

Cubic Units

Fill-em Up

Intro

Sugar Cubes

Closet

Moving Van

# 5th Grade STAAR Crunch

**(5.4.H) continued**

## **Measurement & Geometry**

Solids... Volumes and Surface Area

Volume of a Solid

Volume of a Prism: Formula 1

Volume of Rectangular Prisms

Examples 1 – 2

Real World Problems

Non-Overlapping Rectangular Prisms

The Pool

The Patio

The Stairs

- **Frameworks:**

**Volume of a Solid – Fill Em Up**

**Volume of a Rectangular Prism**

**Volume of Rectangular Prisms**

**Volume of Non-Overlapping Rectangular Prisms**

# 5th Grade STAAR Crunch

**(5.5.A)** classify two-dimensional figures in a hierarchy of sets and subsets using graphic organizers based on their attributes and properties

## Measurement & Geometry

### Perimeter and Area of Polygons

#### Polygons

What are They?

#### Triangles

Definition

Classifications

By Sides

By Angles

#### Quadrilaterals

Definition

Classifications

Trapezoid

Parallelogram

Rectangle

Rhombus

Square

#### Classify Polygons

Venn Diagrams

Red & Regular

Parallel & Perpendicular Lines

#### Hierarchy

Polygons

Quadrilaterals

Triangles

- **Frameworks:**  
**Classifying Two-Dimensional Shapes**  
**Classifying Triangles**  
**Classifying Quadrilaterals**

# 5th Grade STAAR Crunch

<p><b>(5.6.A)</b> recognize a cube with side length of one unit as a unit cube having one cubic unit of volume and the volume of a three-dimensional figure as the number of unit cubes (<math>n</math> cubic units) needed to fill it with no gaps or overlaps if possible</p>	<p><b>Measurement &amp; Geometry</b>            Solids... Volumes and Surface Area            Volume of a Solid            Cubic Units            Fill-em Up            Intro            Sugar Cubes            Closet            Moving Van</p> <ul style="list-style-type: none"> <li>• <b>Frameworks:</b>  <b>Volume of a Solid – Fill Em Up</b></li> </ul>
<p><b>(5.6.B)</b> determine the volume of a rectangular prism with whole number side lengths in problems related to the number of layers times the number of unit cubes in the area of the base</p>	<p><b>Measurement &amp; Geometry</b>            Solids... Volumes and Surface Area            Volume of a Solid            Volume of a Prism: Formula 1            Volume of Rectangular Prisms            Examples 1 – 2</p> <ul style="list-style-type: none"> <li>• <b>Frameworks:</b>  <b>Volume of a Rectangular Prism</b>  <b>Volume of Rectangular Prisms</b></li> </ul>

# 5th Grade STAAR Crunch

<p><b>(5.7.A)</b> solve problems by calculating conversions within a measurement system, customary or metric</p>	<p><b>Measurement &amp; Geometry</b></p> <ul style="list-style-type: none"> <li>An Introduction to Measurement             <ul style="list-style-type: none"> <li>Metric Conversions - Length                 <ul style="list-style-type: none"> <li>Understanding Metric Prefixes</li> <li>Metric Prefixes at Work</li> <li>Metric Match                     <ul style="list-style-type: none"> <li>Introduction</li> <li>Examples</li> </ul> </li> <li>Converting</li> </ul> </li> <li>US Standard Conversions – Length                 <ul style="list-style-type: none"> <li>Converting</li> </ul> </li> </ul> </li> <li>• <b>Frameworks:</b> <ul style="list-style-type: none"> <li><b>Measurement – Understanding Metric Prefixes</b></li> <li><b>Metric Conversions – Length</b></li> <li><b>Metric Prefixes – Length</b></li> <li><b>Metric Conversions – Metric Length</b></li> <li><b>Measurement Conversions – US Standard Length</b></li> </ul> </li> </ul>
<p><b>(5.8.A)</b> describe the key attributes of the coordinate plane, including perpendicular number lines (axes) where the intersection (origin) of the two lines coincides with zero on each number line and the given point (0,0); the x-coordinate, the first number in an ordered pair, indicates movement parallel to the x-axis starting at the origin; and the y-coordinate, the second number, indicates movement parallel to the y-axis starting at the origin</p> <p><b>(5.8.B)</b> describe the process for graphing ordered pairs of numbers in the first quadrant of the coordinate plane</p>	<p><b>Graphing</b></p> <ul style="list-style-type: none"> <li>Points on a Grid             <ul style="list-style-type: none"> <li>Ordered Pairs                 <ul style="list-style-type: none"> <li>Axis</li> <li>Quadrants and Cartesian Plane</li> <li>Finding a Point</li> <li>Order is Important</li> </ul> </li> </ul> </li> <li>• <b>Frameworks:</b> <ul style="list-style-type: none"> <li><b>Axes, Quadrants and the Cartesian Plane</b></li> </ul> </li> </ul>



# 5th Grade STAAR Crunch

**(5.8.C)** graph in the first quadrant of the coordinate plane ordered pairs of numbers arising from mathematical and real-world problems, including those generated by number patterns or found in an input-output table

**Graphing**

Points on a Grid  
 Ordered Pairs  
 Order is Important

- **Frameworks:**  
**Axes, Quadrants and the Cartesian Plane**

**Category 4: Data Analysis and Personal Financial Literacy**

**(5.9.A)** represent categorical data with bar graphs or frequency tables and numerical data measurements in fractions or decimals, with dot plots or stem-and-leaf plots

**Graphing**

Statistics  
 Presenting Data  
 Stem and Leaf Diagram  
 Examples 1 & 2  
 Bar Graph  
 Examples 1 & 2  
 Dot Plot  
 Introduction  
 Creating a Dot Plot  
 Interpreting a Dot Plot

- **Frameworks:**  
**Bar Graph - Operations**  
**Bar Graphs**  
**Dot Plots - Introduction**  
**Interpreting Dot Plots**

# 5th Grade STAAR Crunch

<p><b>(5.9.B)</b> represent discrete paired data on a scatter plot</p>	<p><b>Graphing</b>            Reading &amp; Sketching Graphs                Discrete Data            Statistics                Presenting Data                Scatter Plot                Examples 1 &amp; 2</p>
<p><b>(5.9.C)</b> solve one- and two-step problems using data from a frequency table, dot plot, bar graph, stem-and-leaf plot, or scatter plot  <b>Readiness Standard</b></p>	<p><b>Graphing</b>            Statistics                Presenting Data                Stem and Leaf Diagram                Examples 1 &amp; 2                Bar Graph                Examples 1 &amp; 2                Scatter Plot                Examples 1 &amp; 2            Dot Plot                Interpreting a Dot Plot</p> <ul style="list-style-type: none"> <li>• <b>Frameworks:</b>              Bar Graph – Operations              Bar Graphs              Dot Plots – Introduction              Interpreting Dot Plots</li> </ul>