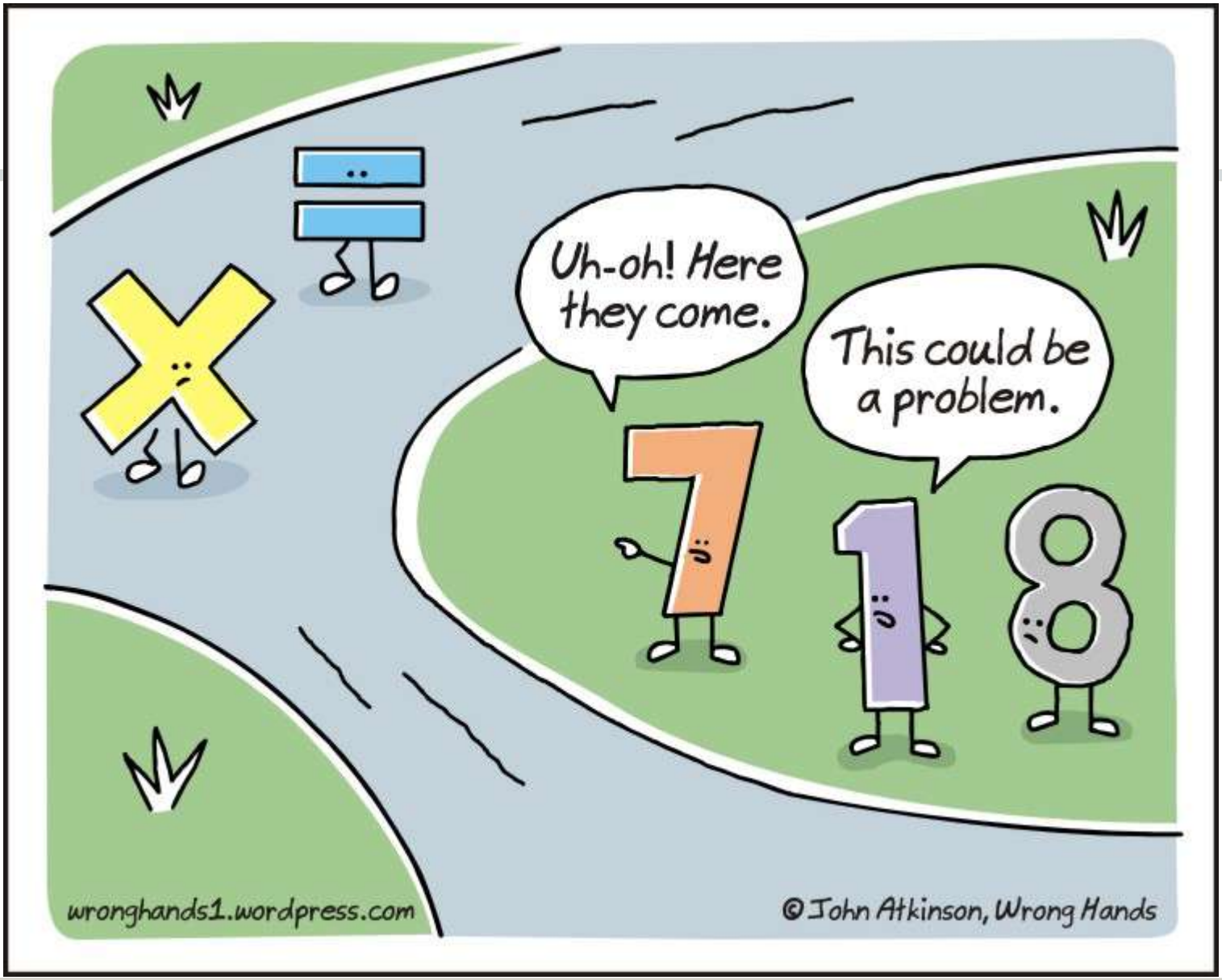
Eureka Math
Parent Night

Wednesday, October 4th, 2017
Fraser High School

Public Schools
FRASER
INNOVATE • LEARN • LEAD

Welcome

- Dr. Dave Richards, Superintendent
  - Fraser Public Schools
- Ms. Carrie Wozniak, Assistant Superintendent
  - Fraser Public Schools
- Board Members
- Elementary/Secondary Principals
- Elementary Math Lead Teachers and District Consultants
- Fraser Parents


Uh-oh! Here they come.
This could be a problem.
wronghands1.wordpress.com
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Session Overview

- Why the need for a new Curriculum – Our Challenge?
- Overview of Eureka Math
  - Background
  - Program Description
- Breakout Sessions (Repeated)

Challenge

- In 2010, The State of Michigan began the transition to the Math Common Core State Standards as well as a greater focus on College and Career Readiness.
- In addition to instructing with new standards, our district has been adjusting to a more rigorous assessment system the M-STEP (2015).
- Eureka Math provides students with learning experiences at this new level of rigor.

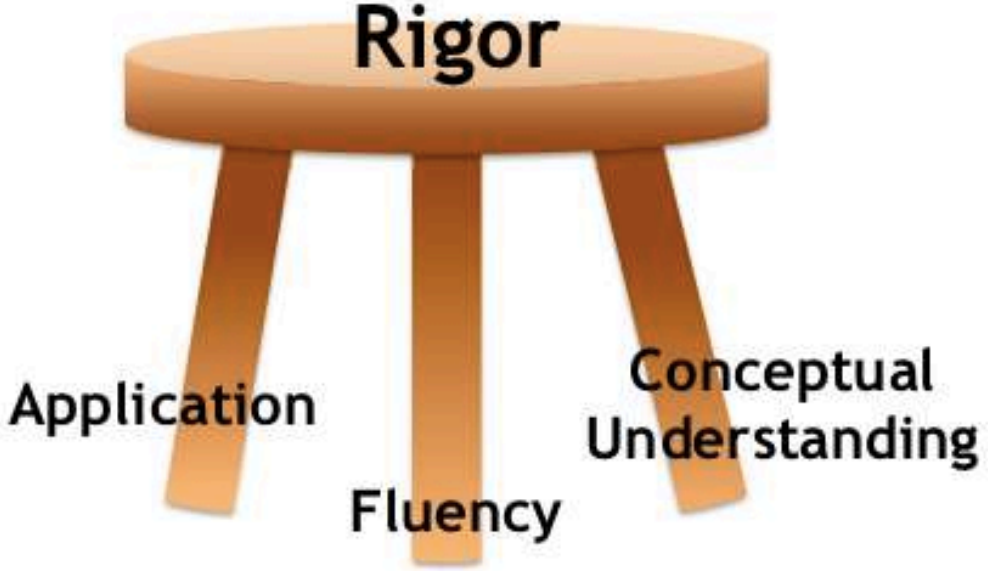
We know this thinking requires perseverance.

It's not that I'm so smart; it's just that I stay with problems longer.

~Albert Einstein

Rigor

Rigor as Defined by the CCSS Instructional Shifts



Key Shifts in Math

1. Greater focus on fewer topics
2. Coherence: linking topics and thinking across grades
3. Rigor: Purse conceptual understanding, procedural skills ad fluency with equal intensity

High Expectations:

- Increased Rigor
  - Complex Assessments
  - College and Career Ready Focus

Why?

Standard for Mathematical Practice	Student Friendly Language
1. Make sense of problems and persevere in solving them. 	• I can try many times to understand and solve a math problem.
2. Reason abstractly and quantitatively. 	• I can think about the math problem in my head, first.
3. Construct viable arguments and critique the reasoning of others. 	• I can make a plan, called a strategy, to solve the problem and discuss other students' strategies too.
4. Model with mathematics. 	• I can use math symbols and numbers to solve the problem.
5. Use appropriate tools strategically. 	• I can use math tools, pictures, drawings, and objects to solve the problem.
6. Attend to precision. 	• I can check to see if my strategy and calculations are correct.
7. Look for and make use of structure 	• I can use what I already know about math to solve the problem.
8. Look for and express regularity in repeated reasoning. 	• I can use a strategy that I used to solve another math problem.

Our Why for Change

Student learning drives the decision for increasing rigor and higher order thinking skills.

- As a district, we have spent a great deal of time focusing in on the implementation of the cognitive growth targets and deeper questioning strategies from our Modern Teacher professional development.
- Through this work, it had became apparent that we needed to realign our Math instruction to not only reflect the increased rigor but also address the high expectations of the complex assessments that our students are being asked to take on both the M-STEP and SAT.

Why Eureka Video

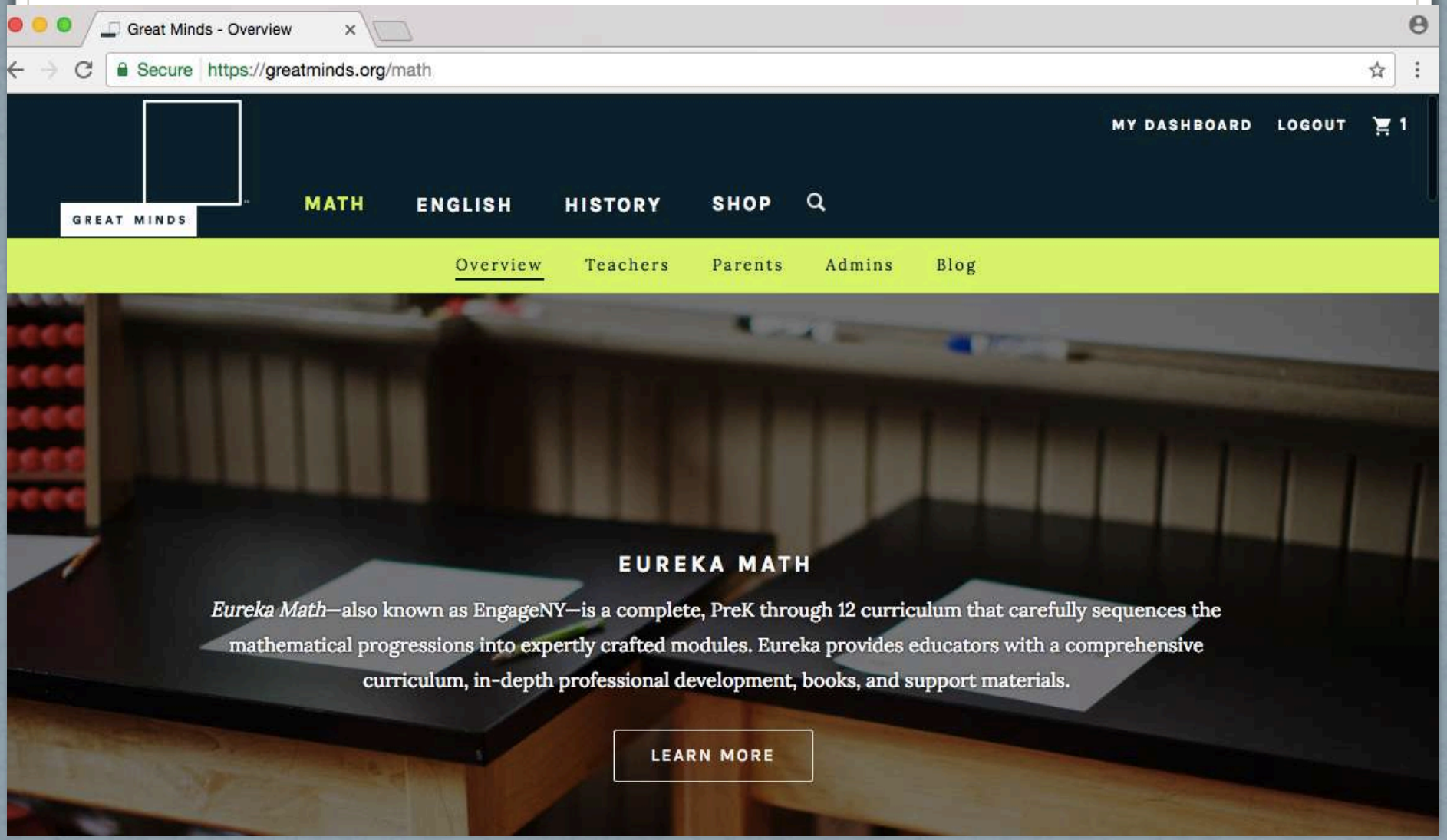
- Parent Video
  - https://greatminds.org/math/parent-night

Eureka Math writers explain how Eureka is different from the way we may have learned math and provides a glimpse of what to expect in the year ahead.

Program Description

- Eureka Math was developed by Common Core, Inc. a Washington, DC based not-for-profit organization (not affiliated with the Common Core State Standards) that creates content rich curriculum tools and programs.
- Eureka Math provides an easily navigable online platform for housing the comprehensive mathematics curriculum Common Core Inc., created for the New York State Education Department.
- This material is housed on the website https://greatminds.org/math.
- Based upon this digital content, Fraser has designed instructional units within our learning management system *itslearning*.

Program Description



Resources

A Story of Units

Curriculum Map for Grades PK-5

	Pre-Kindergarten	Kindergarten	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5		2015-16*
1st TRIMESTER	M1: Counting to 5 (45 days)	M1: Numbers to 10 (43 days)	M1: Sums and Differences to 10 (45 days)	M1: Sums and Differences to 100 (10 days)	M1: Properties of Multiplication and Division and Solving Problems with Units of 2-5 and 10 (25 days)	M1: Place Value, Rounding, and Algorithms for Addition and Subtraction (25 days)	M1: Place Value and Decimal Fractions (20 days)	1st QUARTER	
	M2: Shapes (15 days)	**M2: 2D and 3D Shapes (12 days)	M2: Introduction to Place Value Through Addition and Subtraction Within 20 (35 days)	M2: Addition and Subtraction of Length Units (12 days)	M2: Place Value and Problem Solving with Units of Measure (25 days)	**M2: Unit Conversions (7 days)	M2: Multi-Digit Whole Number and Decimal Fraction Operations (35 days)	2nd QUARTER	
2nd TRIMESTER	M3: Counting to 10 (50 days)	M3: Comparison of Length, Weight, Capacity, and Numbers to 10 (38 days)	M3: Ordering and Comparing Length Measurements as Numbers (15 days)	M3: Place Value, Counting, and Comparison of Numbers to 1,000 (25 days)	M3: Multiplication and Division with Units of 0, 1, 6-9, and Multiples of 10 (25 days)	M3: Multi-Digit Multiplication and Division (43 days)	M3: Addition and Subtraction of Fractions (22 days)	3rd QUARTER	
	M4: Comparison of Length, Weight, Capacity, and Numbers to 5 (35 days)	M4: Number Pairs, Addition and Subtraction to 10 (47 days)	M4: Place Value, Comparison, Addition and Subtraction to 40 (35 days)	M4: Addition and Subtraction Within 200 with Word Problems to 100 (35 days)	M4: Multiplication and Area (20 days)	M4: Angle Measure and Plane Figures (20 days)	M4: Multiplication and Division of Fractions and Decimal Fractions (38 days)		
3rd TRIMESTER	M5: Addition and Subtraction Stories and Counting to 20 (35 days)	M5: Numbers 10-20 and Counting to 100 (30 days)	M5: Identifying, Composing, and Partitioning Shapes (15 days)	M5: Addition and Subtraction Within 1,000 with Word Problems to 100 (24 days)	M5: Fractions as Numbers on the Number Line (35 days)	M5: Fraction Equivalence, Ordering, and Operations (45 days)	M5: Addition and Multiplication with Volume and Area (25 days)	4th QUARTER	
		M6: Analyzing, Comparing, and Composing Shapes (10 days)	M6: Place Value, Comparison, Addition and Subtraction to 100 (35 days)	M6: Foundations of Multiplication and Division (24 days)	M6: Collecting and Displaying Data (10 days)	M6: Decimal Fractions (20 days)	M6: Problem Solving with the Coordinate Plane (40 days)		
				M7: Problem Solving with Length, Money, and Data (30 days)	M7: Geometry and Measurement Word Problems (40 days)	M7: Exploring Measurement with Multiplication (20 days)			
				M8: Time, Shapes, and Fractions as Equal Parts of Shapes (20 days)					

Approx. test date for grades 3-5

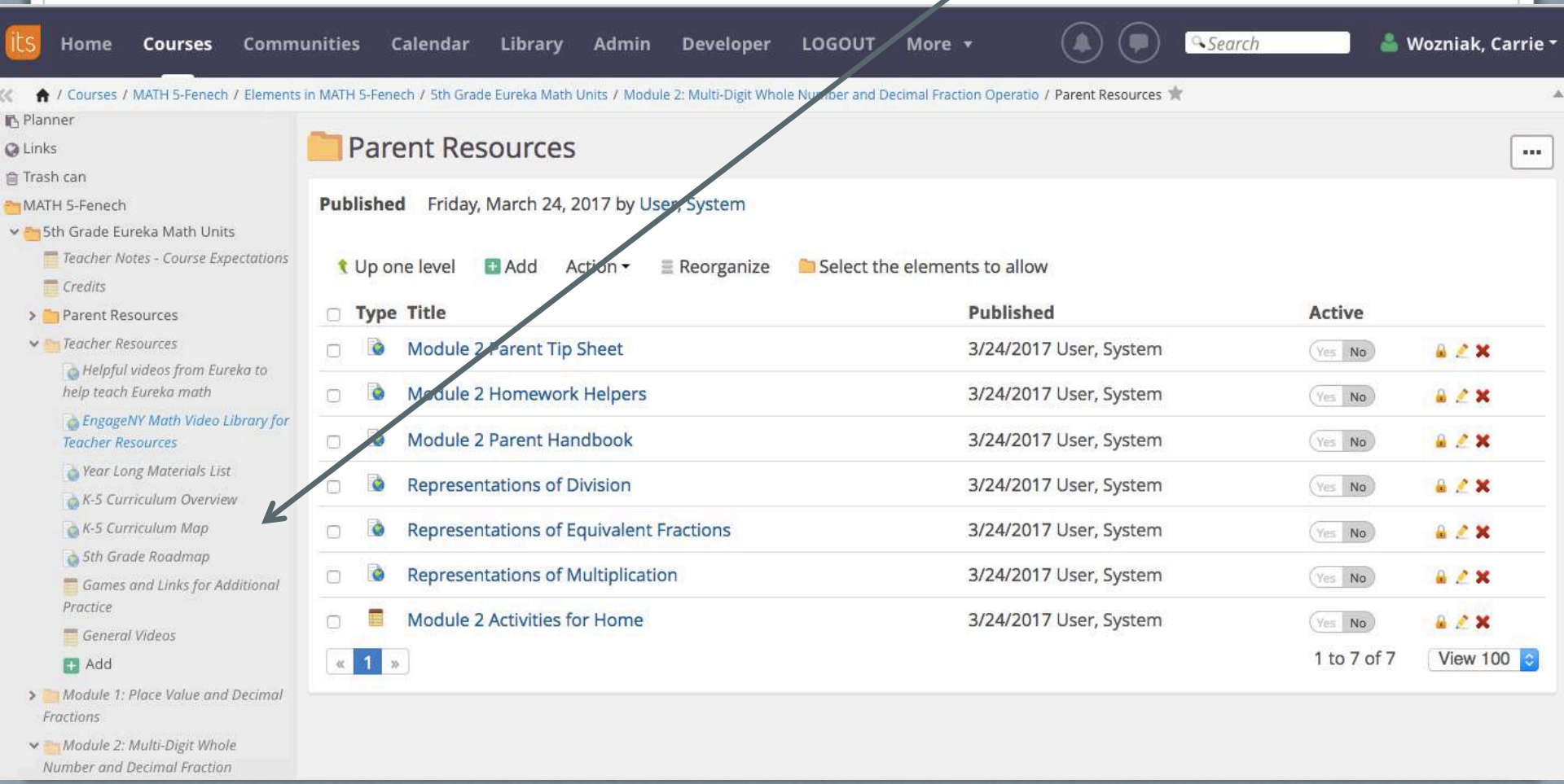
Key:			
Number	Geometry	Number and Geometry, Measurement	Fractions

*The columns indicating trimesters and quarters are provided to give you a rough guideline. Please use this additional column for your own pacing considerations based on the specific dates of your academic calendar.

**Please refer to the modules themselves to identify partially labeled titles as well as the standards corresponding to all modules.

Resources and itslearning

Digital Content can be printed or accessed 24/7.



Homework Helpers

EUREKA MATH™ TIPS FOR PARENTS

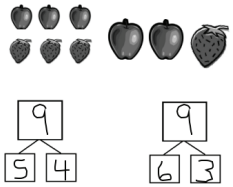
GRADE 1 | MODULE 1 | TOPIC A | LESSONS 1–3

KEY CONCEPT OVERVIEW

During the next few days, our math class will make progress toward the goal of fluently adding and subtracting numbers between 1 and 10. We will learn how to break apart a total into two parts, or **addends**. For example, 9 can be broken apart into 5 and 4, since 5 + 4 = 9. Students will begin to understand that a number can be broken apart in multiple ways.

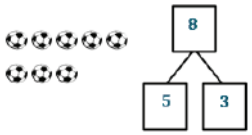
You can expect to see homework that asks your child to do the following:

- Quickly spot a group of five within a larger group of items, and then **count on** from five to find the total number of items.
- Show different ways to break apart a total and draw a matching **number bond**.
- Say what the total is when adding *one more* to a number; for example, "One more than 7 is 8."



SAMPLE PROBLEM *(From Lesson 1)*

Draw a number bond for the number 8 that has 5 as one part.



Additional sample problems with detailed answer steps are found in the *Eureka Math Homework Helpers* books. Learn more at GreatMinds.org.

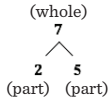
HOW YOU CAN HELP AT HOME

- Invite your child to show you how to count the Math Way (counting from left to right starting with the pinky of the left hand).
- Play "Math Way" Fingers Flash: Partner A quickly flashes a number (from 1 to 10) the Math Way with his fingers, and then hides them behind his back. Partner B says the number she saw. For a challenge, Partner B tells how many more Partner A needs to make ten.

- Play "Penny Parts": Invite your child to organize a group of 6–10 pennies into two groups, placing five pennies in one group. Then ask your child to draw a number bond that shows how the pennies are grouped. For example, if the total is 8 pennies, then the parts are 5 and 3. For an added challenge, separate the pennies two different ways with the same total, and draw a number bond to match each way; for example, 5 and 3, and 4 and 4.

MODELS

Number Bond: A model that shows the relationship between a number (whole) and its parts.



Counting On: To count up from one addend, or number, to the total. For example, in 6 + ___ = 8, we can start at 6 and "count on" two more to reach the total of 8.

Addend: A number that is added to another number(s); for example, in 3 + 4 = 7, 3 and 4 are addends.

For more resources, visit » *Eureka.support*

Teacher Instructional Practices and Pacing

- We have collaborated with all current Eureka Math Teachers to develop best practices related to instruction and class lesson design.
- Our teachers met as part of the professional development process, to review the math instructional models and pacing.
- Teachers collaborated on management strategy and best practices.

Teacher Instructional Practices and Pacing

- Our teachers have shared ideas and best practices to assure that students will be meeting grade level competencies in all buildings and classrooms.
- We are leveraging *itslearning* for content management, differentiation opportunities, and delivery.

Lesson Openers

- Whole Class Instruction (ALL STUDENTS)
  - Application Problem
  - Fluency Practice
- Concept Development – In some cases, concept development and/or common misunderstandings may need to be covered whole group

Whole Group Instruction with the Teacher

- Students learn with their teacher working on fluency, application problems, and concept development with concrete manipulatives. Paper/pencil or whiteboard.
- Concept Development: Opening example problems, problem sets, vignettes, student work samples.
- Guided Practice: Zearn and/or Interventionist
- Independent Practice: Paper Problem Sets and/or Digital Student Notes to accompany Zearn lesson.

Next Up

- Opportunities to meet with Grade Level Lead Teachers to learn more about Eureka Math.
- Opportunities to learn more about the district Learning Management System and how it works with Eureka Math.

Breakout Sessions

Breakout Session Title	Presenters
Eureka Math: Kindergarten Session **Room 1700**	***Edison Kindergarten Teacher Dina Borkowski*** Principal: Dr. Kristi Weiss (Edison)
Eureka Math: 1st and 2nd Grade Session **Room 1702**	***Edison 1st Grade Teacher Amy Cabe*** ***Emerson 2nd Grade Teacher Jessica Kapanka*** Principal: Mr. Sam Argiri (Emerson)
Eureka Math: 3rd thru 5th Grade Session **Room 1704**	***Disney 3rd Grade Teacher Andrea Filip*** ***Salk 5th Grade Teacher Ashley Fenech*** Principal: Mr. Aaron Sutherland (Disney) Principal: Dr. Donna Anderson (Salk)
Eureka Math: 6th Grade Session **Room 1706**	***Mark Twain 6th Grade Teacher Hollie Park*** Principal: Mrs. Laura Woods (Mark Twain)
Eureka Math and *itslearning* Session **LGI Room**	***Eisenhower 4th Grade Teacher Dayna Taylor*** Principal: Mr. Denis Metty (Eisenhower)