

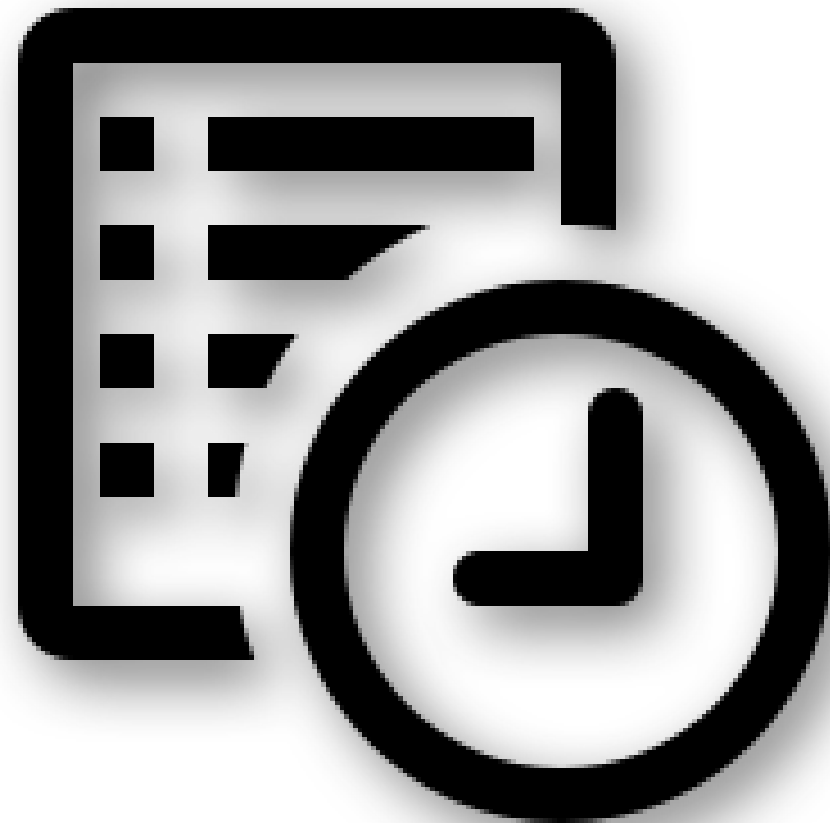
Welcome to Math at SES



- *Stricker Elementary School*
- *February 12, 2019*
- *Heather Reed (5th)*
- *Keri Coats (5th)*
- *Daniel Zunino (4th)*

Math Presentation Agenda

- Eureka Math Introduction
- Math activities



What is *Eureka Math*?



Eureka Math is...

Aligned

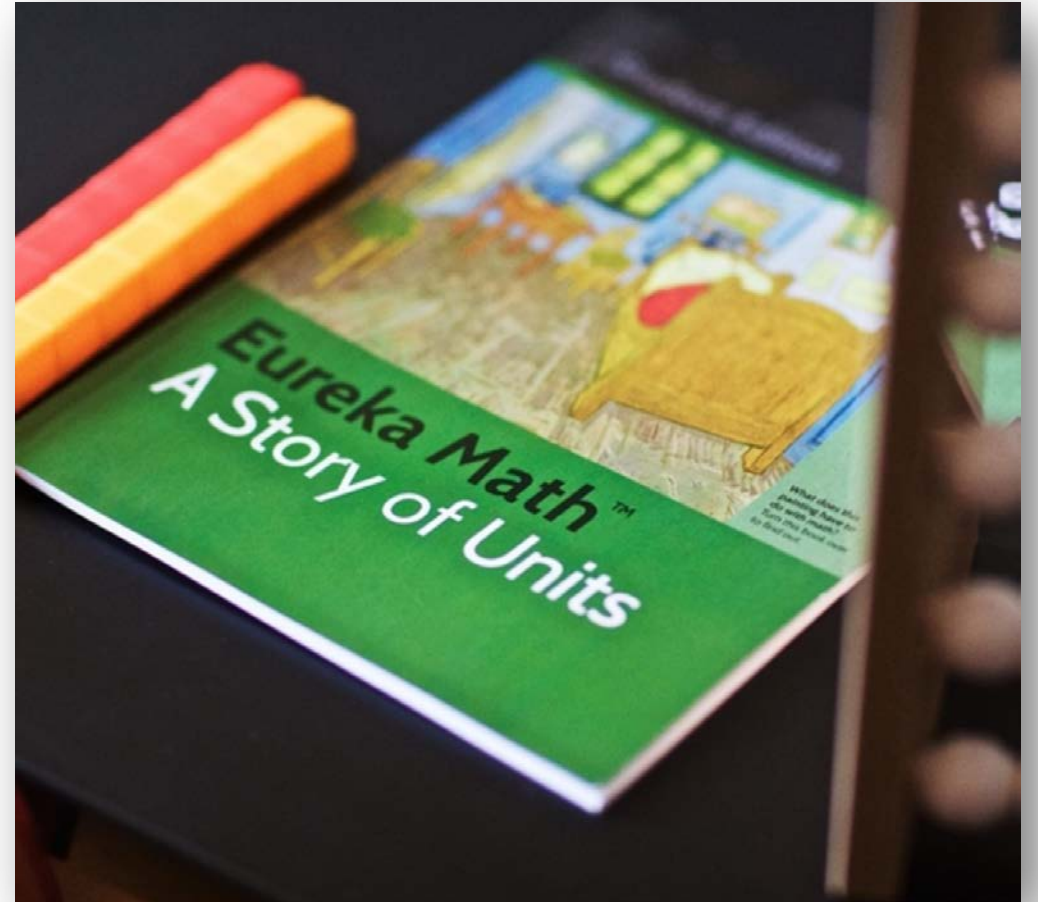
- To standards

Coherent

- A story that builds

Comprehensive

- Print, digital & support

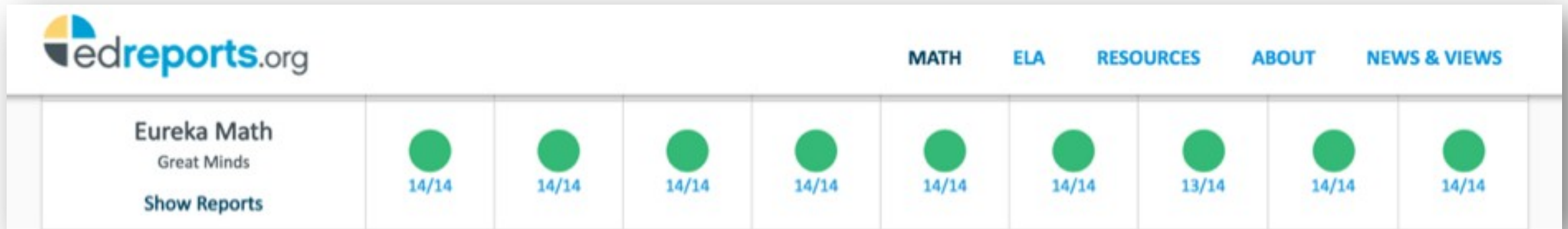


What are the Idaho Core State Standards?

- The Idaho Core State Standards provide a consistent, clear understanding of what students are expected to learn
- The standards are designed to be robust and relevant to the real world, reflecting the knowledge and skills that our young people need for success in college and careers
- With American students fully prepared for the future, our communities will be best positioned to compete successfully in the global economy
- Eureka Math is Idaho Core aligned

Eureka Math is aligned

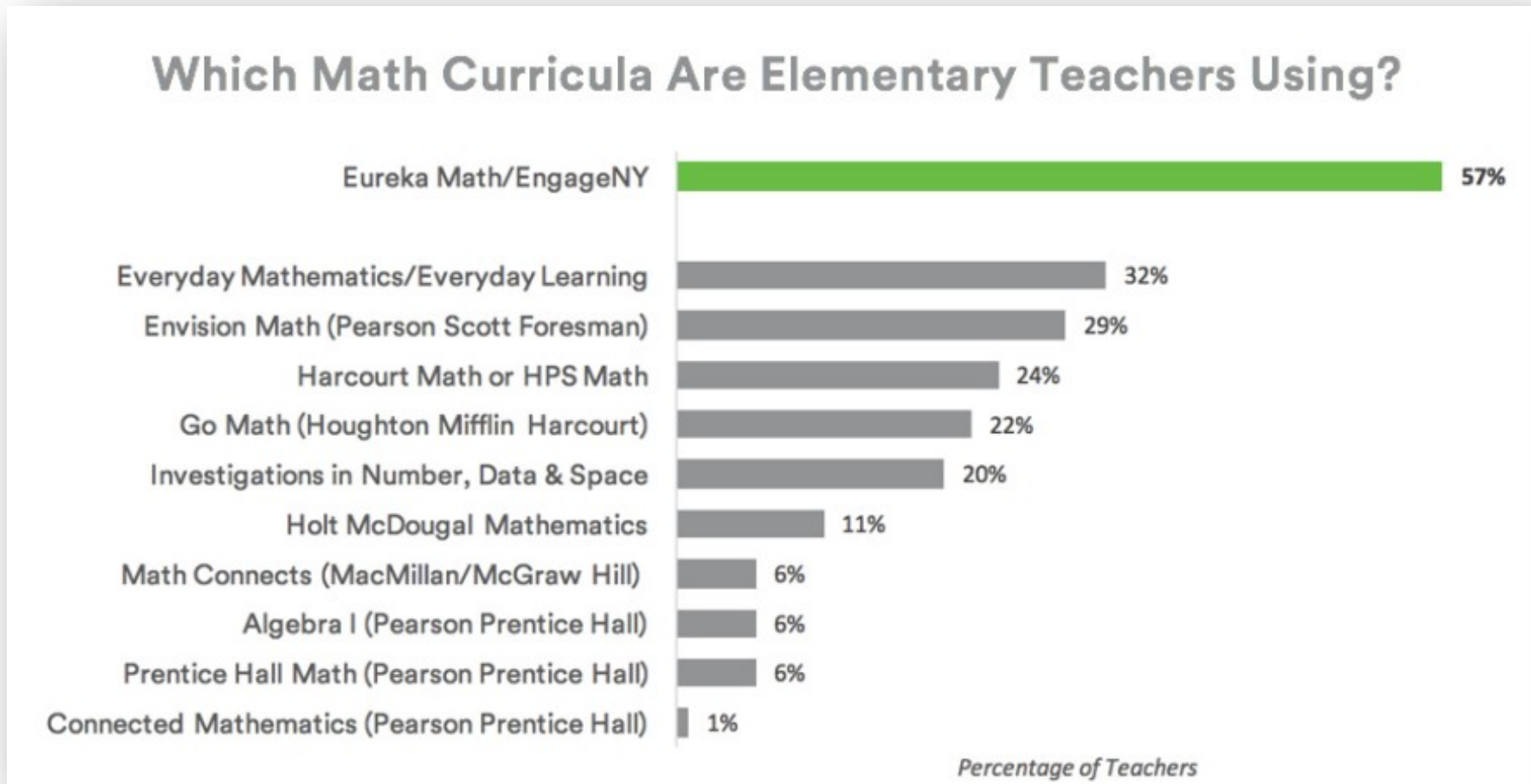
- Highest rating of all K–8 curricula evaluated



The screenshot shows the edreports.org website interface. At the top left is the logo for edreports.org. To the right are navigation links for MATH, ELA, RESOURCES, ABOUT, and NEWS & VIEWS. Below this is a table with 10 columns. The first column contains the text 'Eureka Math', 'Great Minds', and 'Show Reports'. The remaining 9 columns each contain a green circle with a rating below it. The ratings are: 14/14, 14/14, 14/14, 14/14, 14/14, 14/14, 13/14, 14/14, and 14/14.

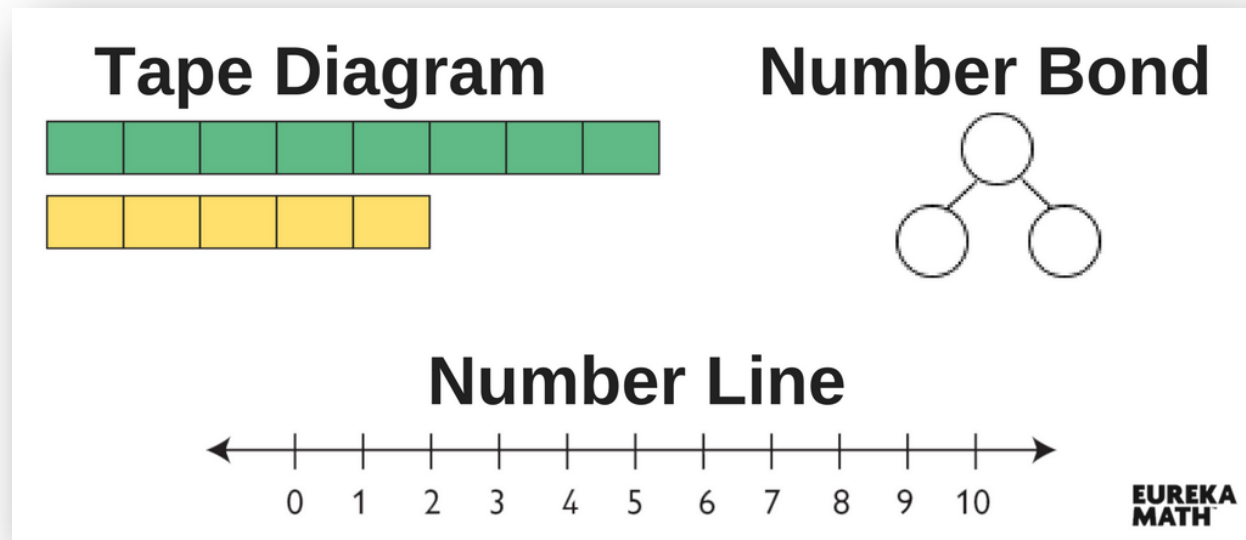
					MATH	ELA	RESOURCES	ABOUT	NEWS & VIEWS
Eureka Math	14/14	14/14	14/14	14/14	14/14	14/14	13/14	14/14	14/14
Great Minds									
Show Reports									

Eureka Math Usage



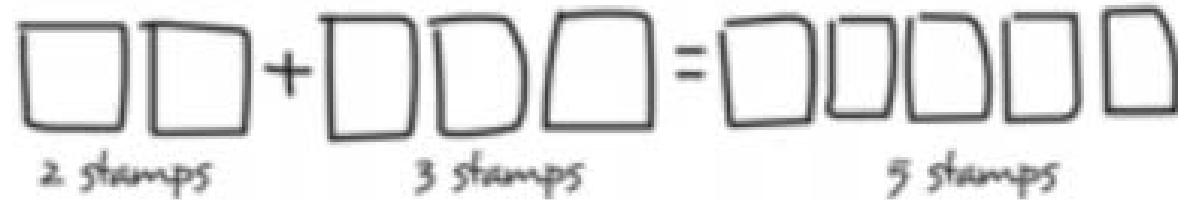
Models

- Tools for problem solving
- Used throughout the curriculum
- Build from lesson-to-lesson, grade-to-grade

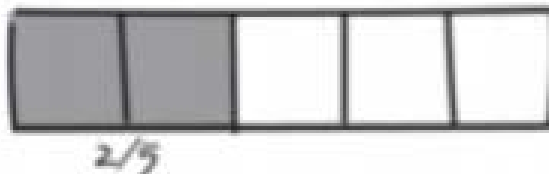


Sample Problems: Tape Diagrams

Divide 5 stamps into a group of 2 and a group of 3.

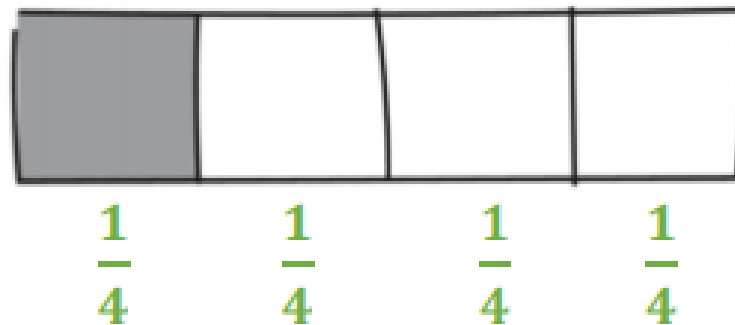
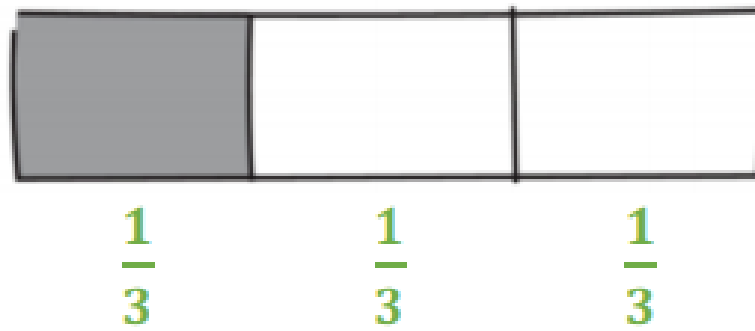


Show what $\frac{2}{5}$ looks like on a tape diagram.



Sample Problems: Visualizing Fractions

Which is greater, $\frac{1}{3}$ or $\frac{1}{4}$?



Your Turn!!

Matthew and his 3 siblings are weeding a flower bed with an area of 9 square yards. If they share the job equally, how many square yards of the flower bed will each child need to weed? Use a tape diagram to show your thinking.

Parent Support

• Sign up for a free account at [greatminds.org/signup](https://www.greatminds.org/signup) to access:

- Homework Helpers (PK-12)
- Parent Tip Sheets (K-8)*
- Grade Roadmaps (K-8)*
- Sample problems*
- Card Games*
- Videos*

*available in English and Spanish

www.GreatMinds.org/Parents

Visit www.Eureka.Support for all things Eureka!

**EUREKA
MATH™**

Tips for helping your child with math homework

- Have your child explain what concepts they are learning.
- Ask questions:
 - *Can you explain?*
 - *What strategy did you use?*
 - *How else can you solve it?*
- Be positive about your child's math education.
- Use *Eureka Math* Parent Resources:
 - Parent Tip Sheets
 - Homework Helpers
 - Videos

EUREKA MATH TIPS FOR PARENTS

KEY CONCEPT OVERVIEW

Welcome to Grade 8! In the first topic of Module 1, students will be learning about operations (mathematical processes such as addition and subtraction) with terms that have **exponents**. They will learn how to use definitions and properties, often referred to as the laws of exponents, to perform these operations. Students will start by investigating the properties of exponents using only positive exponents (e.g., 8^3 or $(-7)^3$), and then they will extend their knowledge to exponents of zero (e.g., 8^0) and **negative exponents** (e.g., 5^{-2} or $(-3)^{-3}$).

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

- Write a **repeated multiplication representation** using exponents.
- Recognize when standard numbers are showing an exponential pattern. For example, 2, 4, 8, 16, and 32 are equal to 2^1 , 2^2 , 2^3 , 2^4 , and 2^5 , respectively.
- Change a given number to an **exponential expression** with a given base. For example, 25 to 5^2 .
- Determine whether an exponential expression is positive or negative.
- Simplify expressions using the properties/laws of exponents, including the **zeroth power** and negative powers.
- Explain his work, and prove that two expressions are equivalent by referencing the definition or property/law used.

SAMPLE PROBLEM (From Lesson 6)

$(5^{-3})^4 = \left(\frac{1}{5^3}\right)^4$
 $= \frac{1}{5^{3 \times 4}}$
 $= \frac{1}{5^{12}}$
 $= 5^{-12}$

By definition of negative exponents
By definition of exponential notation
By 1st Law of exponents
By definition of negative exponents

Properties of Exponents/Laws of Exponents

For any numbers a, b , and all integers k we can use exponent rules that we review below:

Name of Rule	General Example	Another Example
1 st Law of Exponents	$2^3 \times 2^5 = 2^{3+5}$	$3^2 \times 3^7 = 3^{2+7} = 3^9$
2 nd Law of Exponents: Power to a Power	$(2^3)^4 = 2^{3 \times 4}$	$((-4)^2)^3 = (-4)^{2 \times 3} = (-4)^6$
3 rd Law of Exponents	$(xy)^2 = x^2y^2$	$(5y)^3 = 5^3 \cdot y^3$
Division of Exponents: Consequence of 1 st Law for Division	$\frac{2^8}{2^3} = 2^{8-3}$	$\frac{4^{10}}{2^2} = 2^{10-2} = 2^8$
Reciprocal to a Power: Consequence of 3 rd Law for Division	$\left(\frac{1}{2}\right)^4 = \frac{1}{2^4}$	$\left(\frac{1}{3}\right)^5 = \frac{1}{3^5}$
Definition of Negative Exponents	$a^{-k} = \frac{1}{a^k}$	$5^{-2} = \frac{1}{5^2}$

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

For more resources, visit Eureka.support

How to promote mathematical thinking at home

- *Eureka Math* games
- Tracking things over time
 - Height of a plant in the garden, amount of rainfall, etc.
- Adding math to activities they enjoy
 - Tallying the score at miniature golf, calculating expenses for a vacation, etc.
- Art project using geometric shapes



Questions?

Reminder: Important Information & Resources

For Parents

- Sign up to the *Eureka Math from Great Minds* website at www.eureka.support
- Check out the *Homework Helpers* (PK–12) and *Parent Tip Sheets* (K–8)
- <https://embarc.online/>