JUMP START! 2.0 CONVENTION

Louisiana's Math Refresh: Learning Acceleration for All Students

DEPARTMENT of EDUCATION
Louisiana Believes

@JUMPSTART4LA

Session Overview

A. Taking an Acceleration Approach to Address Unfinished Learning in Math
B. Examples from NCCER Math Exam
C. Opportunities
   a. Geometry requirements
   b. Launch Years
D. Reflection and questions

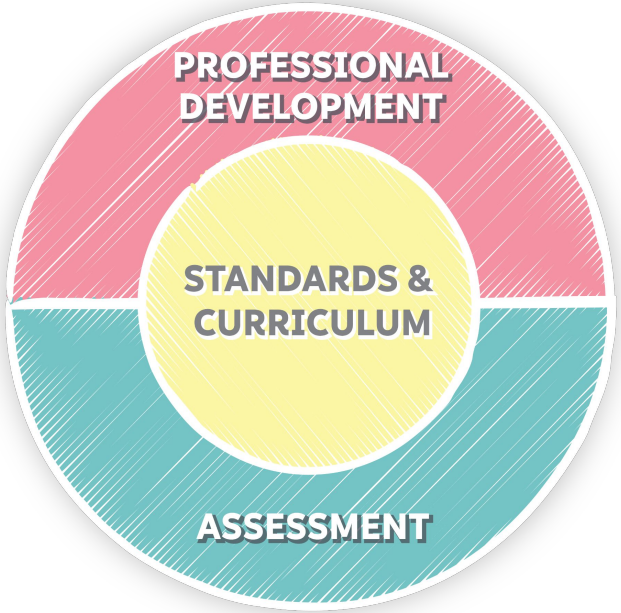
Each child's educational journey is focused on **six critical goals**.

Birth *through* Graduation

1. Students enter Kindergarten ready.
2. Students achieve Mastery level on third grade assessments and enter fourth grade ready for grade-level content.
3. Students will achieve Mastery level on eighth grade assessments and enter ninth grade prepared for grade-level content.
4. Students will graduate on time.
5. Students will graduate with a college and/or career credential.
6. Students will graduate eligible for a TOPS award.

VISION for SUCCESS

Our Academic Strategy

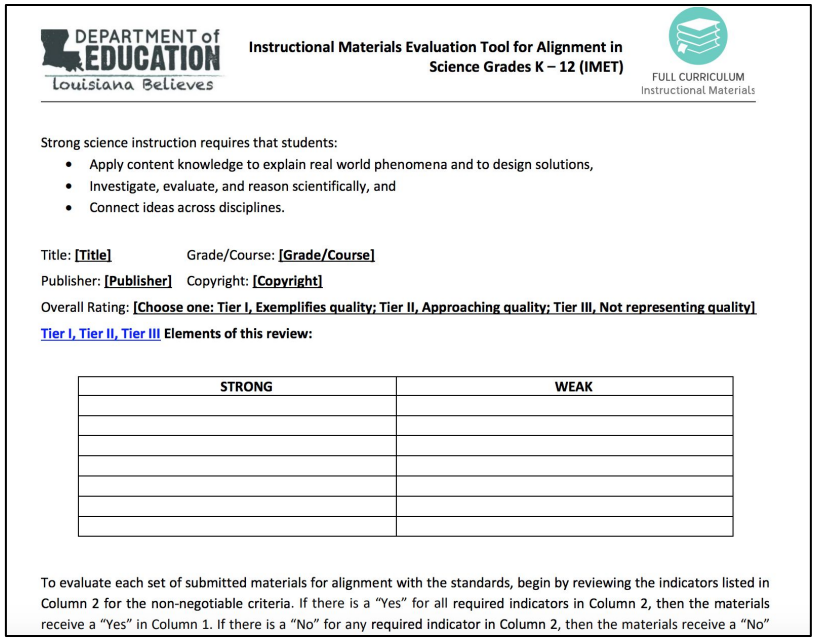


ENSURE COHERENCE AND QUALITY:
Components are interconnected and of the highest quality.

BUILD TRUST IN THE FIELD:
Build trust through ongoing support, collaboration and communications structures for school systems, principals and teachers.

FACILITATE STRATEGIC PARTNERSHIPS:
Facilitate partnerships between school systems and education partners to ensure teachers and students have access to instructional materials and professional development.

Louisiana's Approach To Curriculum



DEPARTMENT of EDUCATION
louisiana believes

Instructional Materials Evaluation Tool for Alignment in Science Grades K – 12 (IMET)

FULL CURRICULUM
Instructional Materials

Strong science instruction requires that students:

- Apply content knowledge to explain real world phenomena and to design solutions,
- Investigate, evaluate, and reason scientifically, and
- Connect ideas across disciplines.

Title: **[Title]** Grade/Course: **[Grade/Course]**

Publisher: **[Publisher]** Copyright: **[Copyright]**

Overall Rating: **[Choose one: Tier I, Exemplifies quality; Tier II, Approaching quality; Tier III, Not representing quality]**

Tier I, Tier II, Tier III **Elements of this review:**

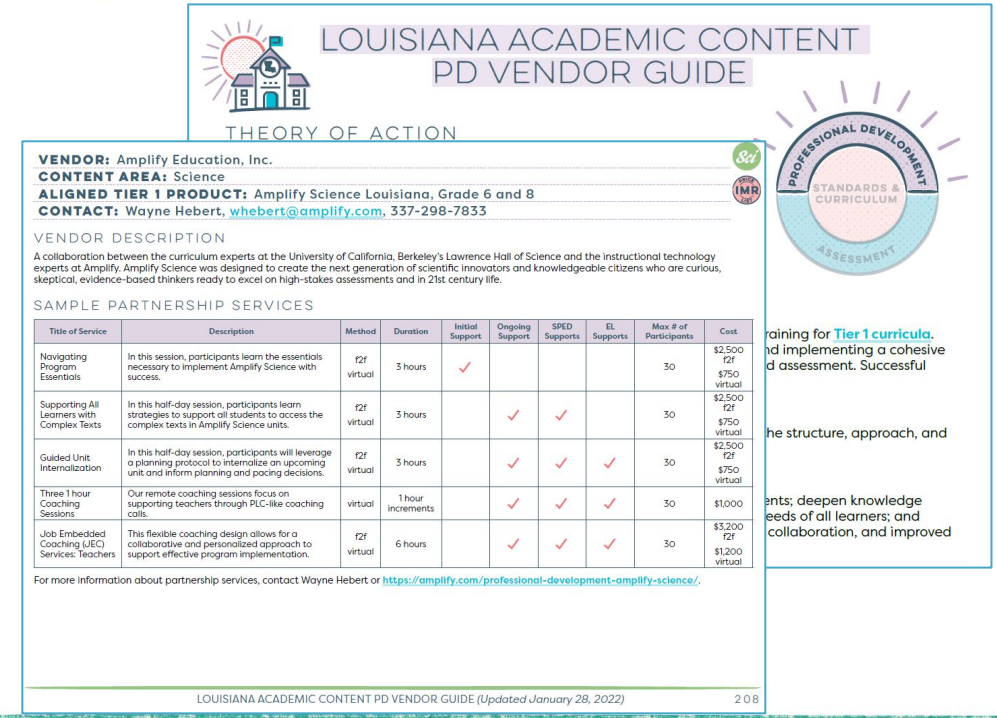
STRONG	WEAK

To evaluate each set of submitted materials for alignment with the standards, begin by reviewing the indicators listed in Column 2 for the non-negotiable criteria. If there is a "Yes" for all required indicators in Column 2, then the materials receive a "Yes" in Column 1. If there is a "No" for any required indicator in Column 2, then the materials receive a "No"

The Department assists local school systems by

- reviewing curricula for quality and supporting districts in accessing the best materials
- providing ongoing training and instructional resources around HQIM
- co-designing high-quality tools to fill in the gaps where needed, such as ELA Guidebooks and Science Pilots

Louisiana's Approach To Professional Development



LOUISIANA ACADEMIC CONTENT PD VENDOR GUIDE

THEORY OF ACTION

VENDOR: Amplify Education, Inc.
CONTENT AREA: Science
ALIGNED TIER 1 PRODUCT: Amplify Science Louisiana, Grade 6 and 8
CONTACT: Wayne Hebert, whebert@amplify.com, 337-298-7833

VENDOR DESCRIPTION

A collaboration between the curriculum experts at the University of California, Berkeley's Lawrence Hall of Science and the instructional technology experts at Amplify. Amplify Science was designed to create the next generation of scientific innovators and knowledgeable citizens who are curious, skeptical, evidence-based thinkers ready to excel on high-stakes assessments and in 21st century life.

SAMPLE PARTNERSHIP SERVICES

Title of Service	Description	Method	Duration	Initial Support	Ongoing Support	SPED Supports	EL Supports	Max # of Participants	Cost
Navigating Program Essentials	In this session, participants learn the essentials necessary to implement Amplify Science with success.	f2f virtual	3 hours	✓				30	$2,500 f2f $750 virtual
Supporting All Learners with Complex Texts	In this half-day session, participants learn strategies to support all students to access the complex texts in Amplify Science units.	f2f virtual	3 hours		✓	✓		30	$2,500 f2f $750 virtual
Guided Unit Internalization	In this half-day session, participants will leverage a planning protocol to internalize an upcoming unit and inform planning and pacing decisions.	f2f virtual	3 hours		✓	✓	✓	30	$2,500 f2f $750 virtual
Three 1 hour Coaching Sessions	Our remote coaching sessions focus on supporting teachers through PLC-like coaching calls.	virtual	1 hour increments		✓	✓	✓	30	$1,000
Job Embedded Coaching (JEC) Services: Teachers	This flexible coaching design allows for a collaborative and personalized approach to support effective program implementation.	f2f virtual	6 hours		✓	✓	✓	30	$3,200 f2f $1,200 virtual

For more information about partnership services, contact Wayne Hebert or https://amplify.com/professional-development-amplify-science/.

LOUISIANA ACADEMIC CONTENT PD VENDOR GUIDE *(Updated January 28, 2022)* 208

raining for Tier 1 curricula.
d implementing a cohesive
d assessment. Successful

he structure, approach, and

nts; deepen knowledge
eeds of all learners; and
collaboration, and improved

The Department utilizes intentional structures to provide professional learning to teachers as well as school and system leaders.

- supporting curriculum-aligned high-quality PL through our PD Vendor Guide
- building local talent via Content Leader
- scaled strategic PL (e.g. annual Teacher Leader Summit, School Support Institutes)

Louisiana's Math Pillars

school structures prioritize **all students'** successful engagement in **high-quality, grade-level core math instruction** alongside peers

timely, proactive interventions connecting prerequisite learning to upcoming and current grade-level work

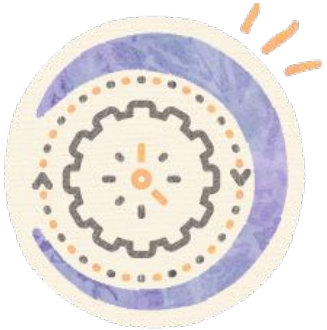
ongoing **professional learning and proactive planning** are essential for effective teaching and accelerating

families, caregivers and communities play an essential role at all ages and stages

Accelerating Math Learning

Teachers have access to **high-impact structures and systems** to support their growth.

Teachers have access to **high-quality, aligned resources**.

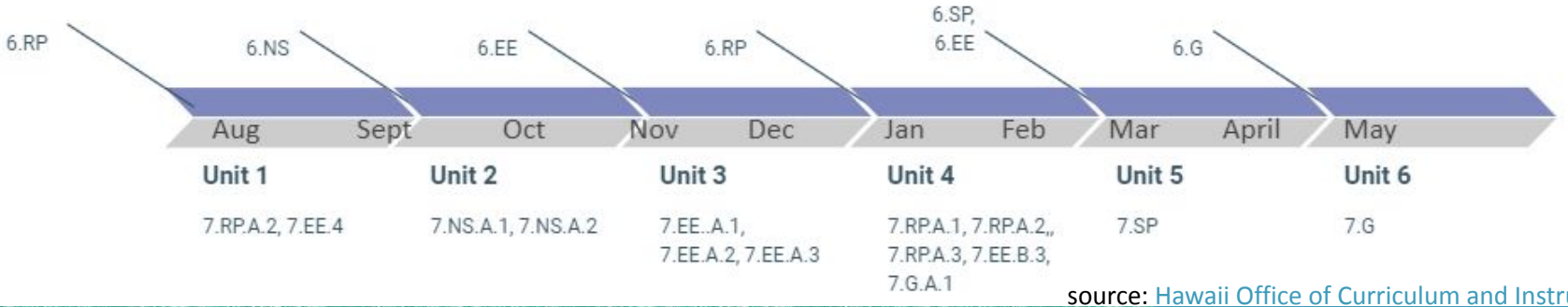


Teachers are prepared to lead **highly-effective instruction in positive, inclusive environments** every day.

Accelerating Learning in Mathematics

No!

Yes!



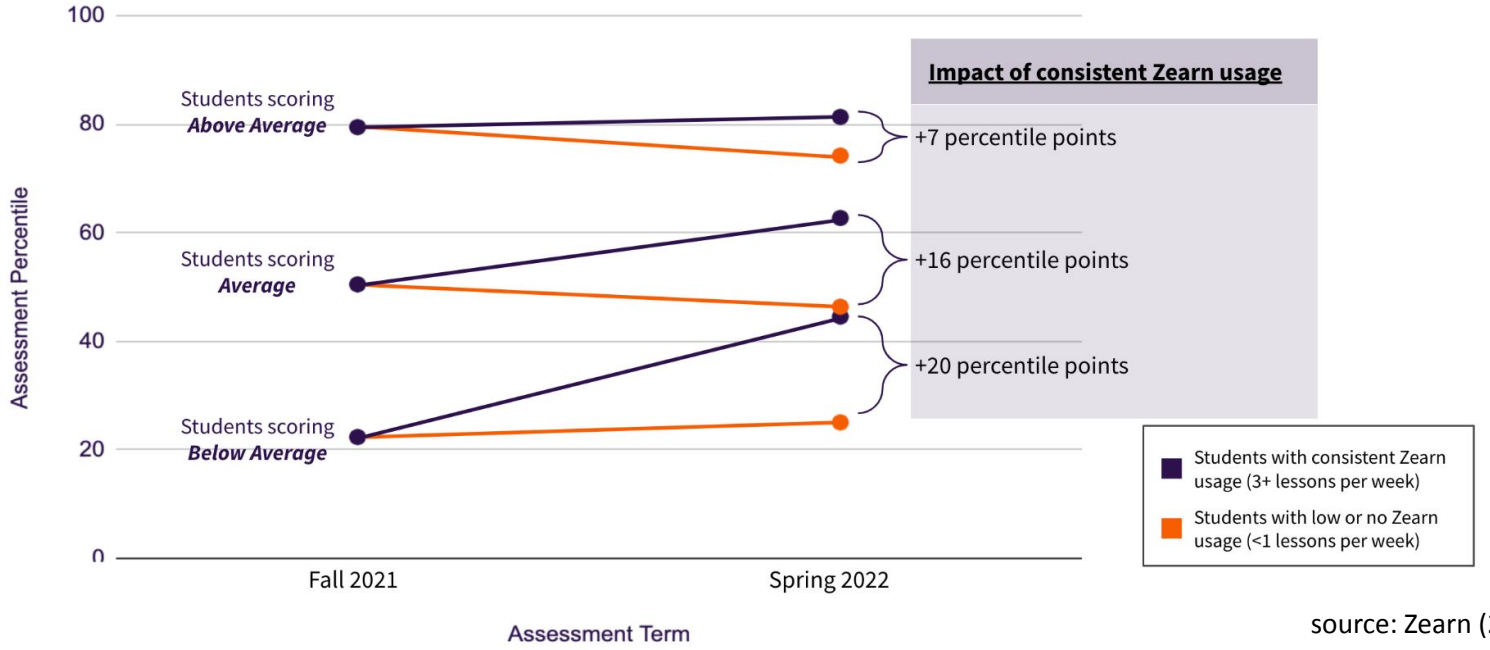
source: Hawaii Office of Curriculum and Instructional Design

Accelerating Math Learning

more of this…	less of this…
• emphasis on *forward movement*; unfinished math learning is systematically addressed just in time for new concepts • ensuring all students, including students with disabilities and English Learners, have daily access to high-quality, grade level learning alongside peers • math instruction across settings (e.g. tutoring, extended learning time) is connected to core instruction and of the same standard of quality, prioritizing individualized supports that ensure readiness to engage in grade level work	• emphasis on *backward movement*, reteaching every "missing" skill or concept in isolation from grade level work • structuring extended learning time and interventions so that students miss sacred core ELA, math, science, or social studies instruction • instructional and intervention time is passive and isolated from core (e.g. focused on worksheets or computer-based fluency drills), and/or students are engaging with work that is better suited for earlier grades

Students with **consistent engagement in high-quality math curriculum that employs acceleration** scored significantly higher on Spring 2022 assessments relative to matched students with little to no engagement.

Assessment Percentile over time, based on student-level Zearn usage and Fall 2021 baseline score category



source: Zearn (2022)

How does this apply to CCR?

Examples from NCCER

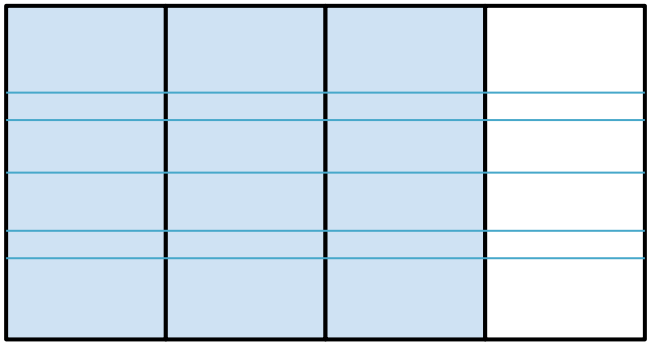
NCCER Math Objective 2

Explain how to work with fractions.

a. Define equivalent fractions and show how to find lowest common denominators.
b. Describe improper fractions and demonstrate how to change an improper fraction to a mixed number.
c. Demonstrate the ability to add and subtract fractions.
d. Demonstrate the ability to multiply and divide fractions.

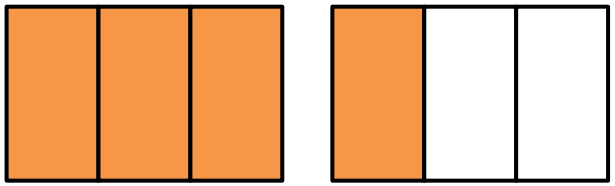
Equivalent Fractions - Objective 2a

$$\frac{3}{4} =$$



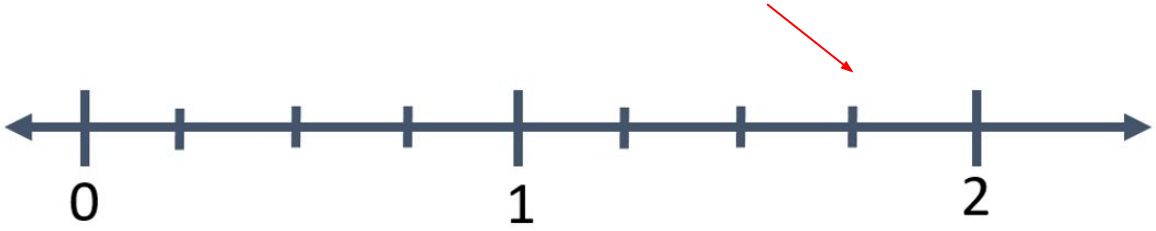
$$\frac{3}{4} * \frac{3}{3} = \frac{9}{12}$$

Improper Fractions - Objective 2c



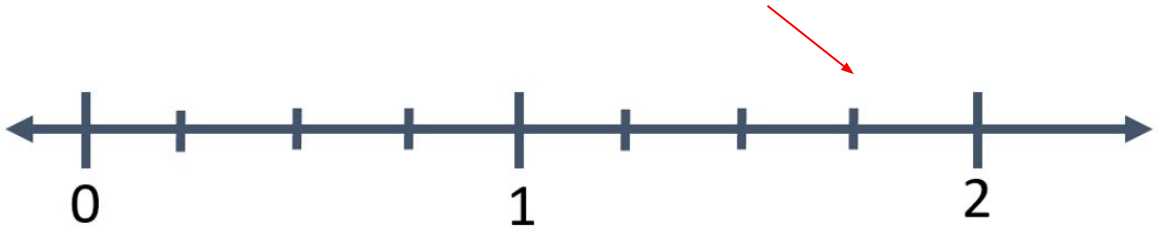
$1\frac{3}{4} = \frac{7}{4}$

$\frac{4}{3}$ $1\frac{1}{3}$



Improper Fractions - Objective 2c

$$1\frac{3}{4} = \frac{7}{4}$$

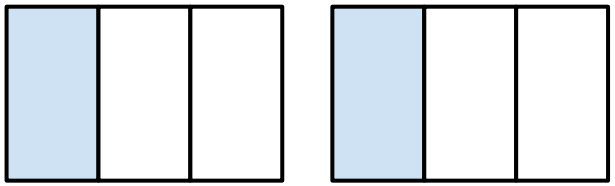


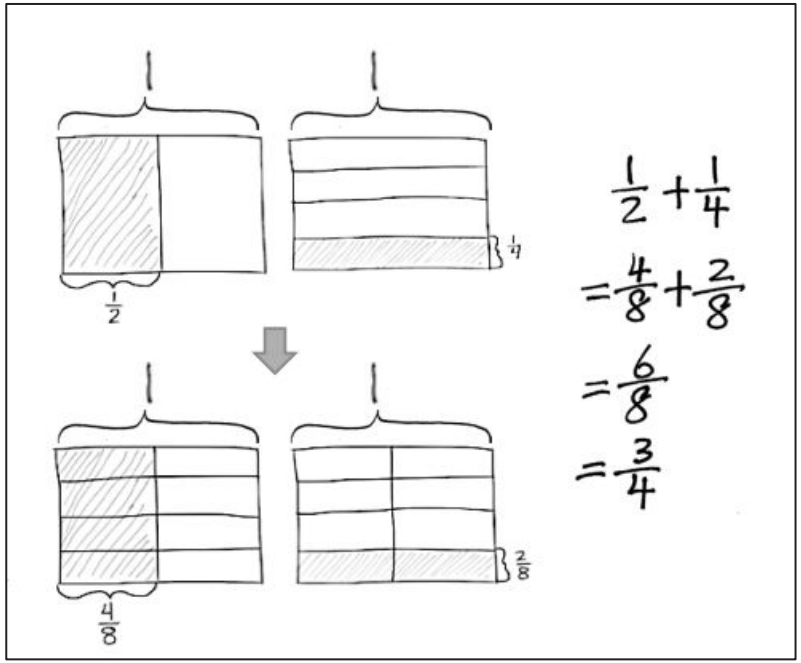
4 fourths represents one whole
7 fourths - 4 fourths = 3 fourths remaining

We have one and three fourths

Addition and Subtraction of Fractions - Objective 2c

$$\frac{1}{3}+\frac{1}{3}=\frac{2}{3}$$





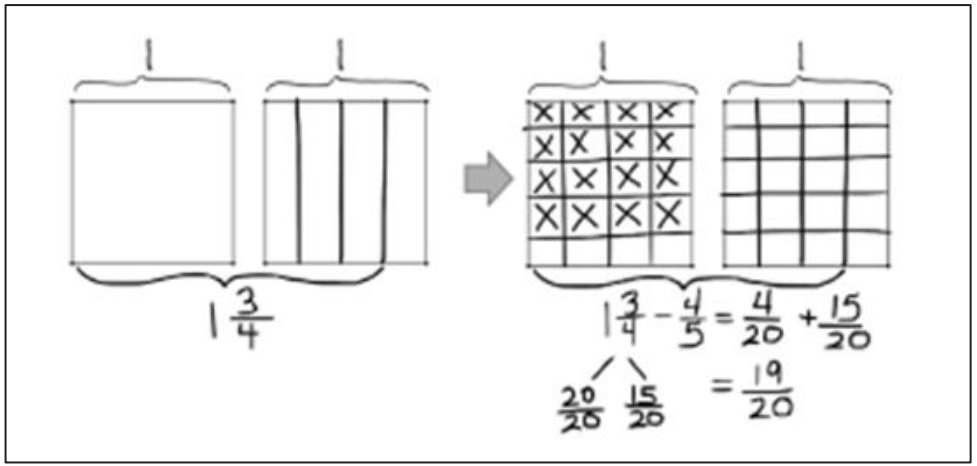
Addition and Subtraction of Fractions - Objective 2c

$$\frac{2}{3} + \frac{1}{4} + \frac{1}{2}$$

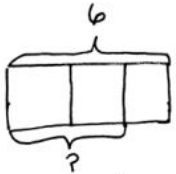
$$= \left(\frac{2 \times 4}{3 \times 4}\right) + \left(\frac{1 \times 3}{4 \times 3}\right) + \left(\frac{1 \times 6}{2 \times 6}\right)$$

$$= \frac{8}{12} + \frac{3}{12} + \frac{6}{12}$$

$$= \frac{17}{12} = \frac{12}{12} + \frac{5}{12} = 1\frac{5}{12}$$



Multiplication of Fractions - 2d



3 units = 6

1 unit = $\frac{6}{3}$

2 units = $2 \times \frac{6}{3}$

$= \frac{6}{3} + \frac{6}{3}$

$= \frac{6+6}{3}$

$= \frac{2 \times 6}{3}$

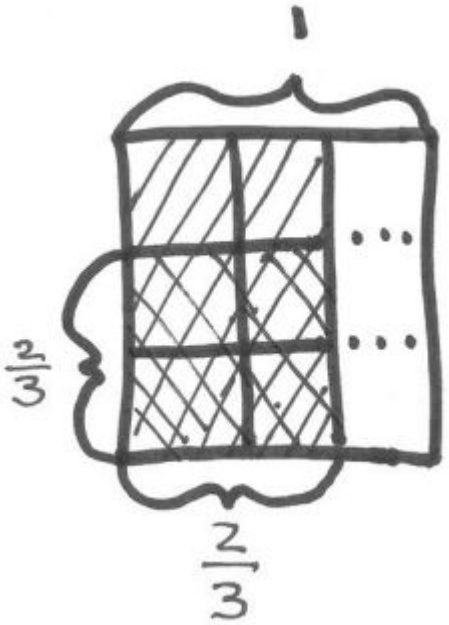
$= \frac{12}{3}$

$= \frac{2}{3} + \frac{2}{3} + \frac{2}{3} + \frac{2}{3} + \frac{2}{3} + \frac{2}{3}$

$= \frac{2+2+2+2+2+2}{3}$

$= \frac{6 \times 2}{3}$

$= \frac{12}{3}$



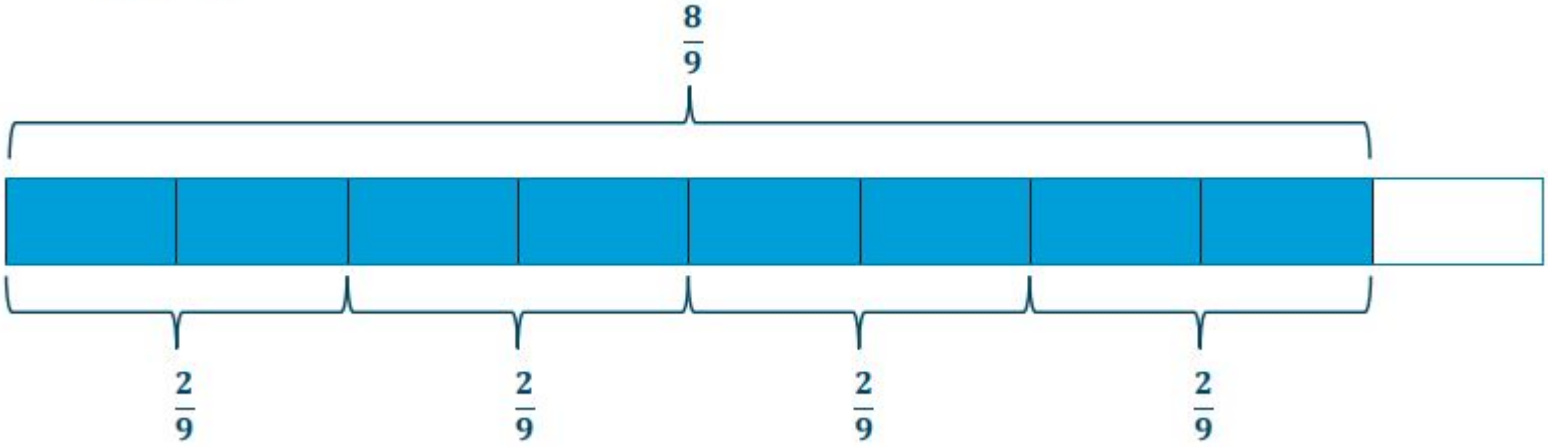
$\frac{2}{3} * \frac{2}{3}$

$\frac{2 * 2}{3 * 3}$

$\frac{4}{9}$

Multiplication of Fractions - 2d

$\frac{8}{9} \div \frac{2}{9}$ = 4



$\frac{8}{9} \div \frac{2}{9}$

$\frac{8}{9} * \frac{9}{2}$

$\frac{8}{2} = 4$

Language Notes

- Students may not be accustomed to the word cancel.
- What's improper about a fraction? Fractions greater than one.
- Shortcuts like keep-change-flip

$$\frac{8}{9} \div \frac{2}{9} \qquad \frac{5}{6} + \frac{7}{8} \qquad \frac{8}{2} = \frac{4}{x}$$

Practice Problem

On construction drawings, smaller dimensions are often used to represent larger ones. This allows the large object or structure to fit on th epaper. On such a drawing, if ¼-inch represents a distance of 1 foot, then a line on the drawing measuring 8 ½ inches would represent how many feet?

8 ½ inches

4 ft	4 ft	4 ft	4 ft	4 ft	4 ft	4 ft	4 ft	2 ft

$4 \cdot 8 + 2 = 34$ ft

Reflection

- What confirmed your thoughts?
- What challenged your thinking?
- What questions do you have?

Coming up

New Geometry Requirement

Students who take Applied Geometry as part of the new policy for students earning a diploma under the Jump Start diploma pathway must take the Geometry assessment and students must pass either Algebra I or Geometry to meet the math pair assessment requirement.

Launch Years Initiative Goal

Students in transition math courses

- Aligned with aspirations
- Supports to succeed
- Equitable access and success
- Smooth transitions

Questions? Feedback?

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