6th grade | Innovation

Topic 1: Use positive Rational Numbers

10 Days

Internalization Resources	District Calendars	STAAR Resources	Additional Resources
Topic Overview CIA Blueprint Lead4Ward Field Guides YAG	District Assessment Calendar CIA Guide 2026-2027 Curriculum Map	6th Grade Frequency Distribution Desmos STAAR Version 6th Grade Reference Sheet	Topic 1: Use positive Rational Numbers Open Middle

RISD LEARNER FRAMEWORK				
IGNITE	WONDER/DISCOVER	COLLABORATE	APPLY/CREATE	REFLECT

	Day 1	Day 2	Day 3	Day 4	Day 5
TEKS & ELPS:	**TEKS:** 6.3E* Multiply and divide positive rational numbers fluently.*Readiness Standard **ELPS: Listening 1C**	**TEKS: 6.3E** 6.3E* Multiply and divide positive rational numbers fluently.*Readiness Standard **ELPS: Writing 4C**	**TEKS:**6.3E: Multiply and divide positive rational numbers fluently.*Readiness Standard 6.3D: Add, subtract, multiply, and divide integers fluently. *Readiness Standard* **ELPS:Speaking 2D**		**TEKS:**6.3E: Multiply and divide positive rational numbers fluently. *Readiness Standard 6.3B : Determine, with and without computation, whether a quantity is increased or decreased when multiplied by a fraction, including values greater than or less than one. Supporting Standard **ELPS:Reading 3C**

Warm-Up **5 minutes**			**Open Middle** **Slide 5**		**Open Middle** **Slide 10**
Mini Lesson 10 -15 minutes	Intro to Innovation Math	Collaboration_Lesso…	This is a great activity to practice collaboration from the previous lesson. Teachers will push this out to students, and they will work in groups. Students can use notebook paper or a spiral to work and write out answers. Traffic Patterns Topic… Traffic Patterns Answ…	ASK: If you had $10,000 to build an amusement park, what would you buy first? Growing Your Brand Small Business Finances: A Guide for Youth Mississippi State University Extension Service Group students or they can work individually on chunking the article above. There is a worksheet below that can be shared, and they can make a copy. The article is 8 pages, so you may want to pair it down.	Students become amusement park designers. They will plan a park, manage a budget, calculate profits, design attractions using fractions of land, analyze visitor data, and present their final amusement park proposal. Slide Deck Project 1
Learning Objective:	I will: • Understand why I have been placed in Innovation Math. • Recognize the characteristics of mathematical thinking. • Learn how Innovation Math differs from a traditional math class. • Set personal goals for developing as mathematical thinkers.	I will identify and apply specific collaborative behaviors (explaining reasoning, questioning respectfully, building on others' ideas) during a shared math task, and reflect on how those behaviors changed the group's thinking.	I will create and calculate percentages, percent increase/decrease, and percent of a quantity to solve real-world traffic issues.	I will understand how to calculate revenue, expenses, and profit (or loss) for a small business , and explain how changes in pricing, costs, or sales volume affect overall profitability.	I will be able to allocate a fixed acreage among multiple park zones or rides using area and percentage calculations, and evaluate ride/attraction choices against a budget by comparing prices and calculating percentages (such as cost as a percent of total budget), justifying their final layout and selections with mathematical reasoning.

Essential Understanding:	Placement in an advanced class reflects a student's current readiness to work at a faster pace and greater depth right now — it's a recognition of demonstrated skill and effort, not a fixed label of intelligence or worth, and it comes with an expectation to keep rising to that challenge.	Mathematical understanding deepens when it's tested against other people's thinking — a good collaborator makes their own reasoning visible and takes other people's reasoning seriously, rather than just working faster or louder than the group.	Percents let us compare and describe change in a way that's meaningful across very different quantities such as a discount, a tax, a capacity limit, or a tip all use the same underlying idea of "a portion out of 100," which makes percents useful for describing real-world change (prices, crowd levels, ride capacity) in a single common language.	Running a small business requires tracking money coming in (revenue) against money going out (expenses) — profit isn't just what you earn, it's what's left after covering costs, so understanding that difference is essential to knowing whether a business is actually successful.	Designing a functional space requires balancing multiple constraints at once — available land must be divided proportionally among competing uses, and spending decisions must stay within a budget — so math isn't just used to calculate a single answer, but to compare tradeoffs and justify a final decision.
Vocabulary:			Reinforce Vocabulary • Dividend • Divisor • Quotient • Decimal point • Annex zeros • Percent	Reinforce Vocabulary • Dividend • Divisor • Quotient • Decimal point • Annex zeros	Reinforce Vocabulary • Numerator • Denominator • Mixed numbers • Reducing at Corners • Simplest Form
DOLs:		Reflection from Lesson		small-business-financ…	If you feel your students need this. it will help them hold each other accountable and stabilize the work.

	Day 6	Day 7	Day 8	Day 9
TEKS & ELPS:	6.2E: Extend representations for division to include fraction notation such as a/b represents the same number as a ÷ b where b ≠ 0. Supporting Standard 6.3A: Recognize that dividing by a rational number and multiplying by its reciprocal result in equivalent values.	6.3A: Recognize that dividing by a rational number and multiplying by its reciprocal result in equivalent values. Supporting Standard 6.3E: Multiply and divide positive rational numbers fluently. *Readiness Standard **ELPS:Reading 3F**	6.3A: Recognize that dividing by a rational number and multiplying by its reciprocal result in equivalent values. Supporting Standard 6.3E: Multiply and divide positive rational numbers fluently. *Readiness Standard **ELPS: Listening 1C**	6.2E: Extend representations for division to include fraction notation such as a/b represents the same number as a ÷ b where b ≠ 0. Supporting Standard 6.3A: Recognize that dividing by a rational number and multiplying by its reciprocal result in equivalent values.

	Supporting Standard 6.3E: Multiply and divide positive rational numbers fluently. *Readiness Standard **ELPS:Reading 3G**			Supporting Standard 6.3E: Multiply and divide positive rational numbers fluently. *Readiness Standard **ELPS: Speaking 2B**
Warm Up	**Open Middle** **Slide 25**	**Open Middle** **Slide 26**	**Open Middle** **Slide 27**	**Open Middle** **Slide 28**
Mini Lesson:				
Learning Objective:	I will apply addition, subtraction, multiplication, and division of rational numbers — including negative fractions and decimals — to solve real-world problems in an amusement park context, and justify why a given operation fits the situation.	I will apply addition, subtraction, multiplication, and division of rational numbers — including negative fractions and decimals — to solve real-world problems in an amusement park context, and justify why a given operation fits the situation.	I can calculate the mean of a data set and interpret what that average represents in a real-world context.	Students will be able to allocate a fixed acreage among multiple park zones or rides using area and percentage calculations, and evaluate ride/attraction choices against a budget by comparing prices and calculating percentages (such as cost as a percent of total budget), justifying their final layout and selections with mathematical reasoning.
Essential Understanding:	A single average can represent an entire data set, but it only tells part of the story — knowing the total and the average together gives a fuller picture of what "typical" looks like than either number alone.	Real data can be summarized, compared, and reinterpreted in multiple mathematical forms, and the form we choose shapes what conclusions are easy or hard to draw from it.	Real data can be summarized, compared, and reinterpreted in multiple mathematical forms, and the form we choose shapes what conclusions are easy or hard to draw from it.	Designing a functional space requires balancing multiple constraints at once — available land must be divided proportionally among competing uses, and spending decisions must stay within a budget — so math isn't just used to calculate a single answer, but to compare tradeoffs and justify a final decision.
Vocabulary:	• Numerator • Denominator	• Numerator • Denominator	• Numerator • Denominator	• Numerator • Denominator

	• Mixed numbers • Reducing at Corners • Simplest Form • Inverse operation • reciprocal	• Mixed numbers • Reducing at Corners • Simplest Form • Inverse operation • reciprocal	• Mixed numbers • Reducing at Corners • Simplest Form • Inverse operation • reciprocal	• Mixed numbers • Reducing at Corners • Simplest Form • Inverse operation • reciprocal
DOLs:	Project Cont			Amusement Park Ru… Amusement Park Pro…

Vertical Alignment		
5th Grade:	**6th:**	**7th**
	6.2.E (S) extend representations for division to include fraction notation such as a/b represents the same number as $a \div b$ where $b \neq 0$.	
	6.3.A (S) recognize that dividing by a rational number and multiplying by its reciprocal result in equivalent values;	7.3.A (S) add, subtract, multiply, and divide rational numbers fluently; and
5.3.C (S) solve with proficiency for quotients of up to a four-digit dividend by a two-digit divisor using strategies and the standard algorithm;	6.3.E (R) multiply and divide positive rational numbers fluently.	7.3.A (S) add, subtract, multiply, and divide rational numbers fluently; and
	6.3.D (R) add, subtract, multiply, and divide integers fluently; and	7.3.A (S) add, subtract, multiply, and divide rational numbers fluently; and
	6.3.B (S) determine, with and without computation, whether a quantity is increased or decreased when multiplied by a fraction, including values greater than or less than one;	7.3.B (R) apply and extend previous understandings of operations to solve problems using addition, subtraction, multiplication, and division of rational numbers.

English Language Proficiency Standards (ELPS)	
Listening 1C	respond with accuracy to oral directions, instructions, and requests;
Writing 4C	The student is expected to write using a combination of high-frequency words and

	content area vocabulary
Speaking 2D	speak using appropriate register to convey a message during formal and informal classroom interactions with accuracy and fluency;
Reading 3C	use high-frequency words, cognates, and content-area vocabulary to comprehend written classroom materials;
Reading 3F	derive meaning from and demonstrate comprehension of content-area texts using visual, contextual, and linguistic supports;
Reading 3G	demonstrate reading comprehension of content-area texts by retelling, paraphrasing, summarizing, and responding to questions;
Speaking 2B	speak using content-area vocabulary during formal and informal classroom interactions to demonstrate acquisition of new words and high-frequency words;

Graduate Profile Icons (delete after use):





