



Marietta City Schools

District Unit Planner

Everything on the unit planner must be included on the unit curriculum approval statement.

Accelerated Grade 6/7 Mathematics

Unit title	Unit 1: Number System Fluency	MYP year	1	Unit duration (hrs)	25 Hours
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Mastering Content and Skills through INQUIRY (Establishing the purpose of the Unit): *What will students learn?*

GSE Standards

Standards

MGSE6.NS.1 Interpret and compute quotients of fractions, and solve word problems involving division of fractions by fractions, including reasoning strategies such as using visual fraction models and equations to represent the problem.

For example:

- How much chocolate will each person get if 3 people share $\frac{1}{2}$ lb of chocolate equally?
- How many $\frac{3}{4}$ -cup servings are in $\frac{2}{3}$ of a cup of yogurt?
- How wide is a rectangular strip of land with length $\frac{3}{4}$ mi and area $\frac{1}{2}$ square mi?
- Three pizzas are cut so each person at the table receives $\frac{1}{4}$ pizza. How many people are at the table?
- Create a story context for $(\frac{2}{3}) \div (\frac{3}{4})$ and use a visual fraction model to show the quotient;
- Use the relationship between multiplication and division to explain that $(\frac{2}{3}) \div (\frac{3}{4}) = \frac{8}{9}$ because $\frac{3}{4}$ of $\frac{8}{9}$ is $\frac{2}{3}$. (In general, $(\frac{a}{b}) \div (\frac{c}{d}) = \frac{ad}{bc}$.)

MGSE6.NS.2 Fluently divide multi-digit numbers using the standard algorithm.

MGSE6.NS.3 Fluently add, subtract, multiply, and divide multi-digit decimals using the standard algorithm for each operation.

Concepts/Skills to be Mastered by Students

- Find the greatest common factor of two whole numbers less than or equal to 100.
- Find the least common multiple of two whole numbers less than or equal to 12.
- Use the distributive property to express a sum of two whole numbers 1-100 with a common factor as a multiple of a sum of two whole numbers with no common factor.
- Interpret and compute quotients of fractions.
- Solve word problems involving division of fractions by fractions using visual fraction models and equations to represent the problem.
- Fluently divide multi-digit numbers using the standard algorithm.

- Fluently add, subtract, multiply, and divide multi-digit decimals using the standard algorithm for each operation.

Vocabulary

- Algorithm: a step-by-step solution to a problem.
- Difference: The amount left after one number is subtracted from another number.
- Dividend: A number that is divided by another number.
- Divisor: A number by which another number is to be divided.
- Factor: When two or more integers are multiplied, each number is a factor of the product. "To factor" means to write the number or term as a product of its factors.
- Measurement Model of Division: When we know the original amount and the size or measure of ONE part, we use measurement division to find the number of parts. Ex: 20 is how many groups of 4?
- Multiple: The product of a given whole number and an integer.
- Quotient: A number that is the result of division.
- Partitive Model of Division: When we know the original amount and the number of parts, we use partitive division to find the size of each part. Ex: 20 is 4 groups of what unit?
- Reciprocal: Two numbers whose product is 1. The reciprocal of a fraction can be found by inverting that fraction (switching the denominator and numerator).
- Sum: The number you get by adding two or more numbers together.
- Product: A number that is the result of multiplication.

Key concept	Related concept(s)	Global context
Logic	Model Representation	Globalization and Sustainability
Statement of inquiry		
Making decisions can be improved by using a model to represent relationships.		
Inquiry questions		
Factual —How is division related to factors? What is a product? What is a GCF? What is a LCM? What is division? What are common factors? What can factors tell me about a number? What can multiples tell me about a number? What are some other characteristics numbers can have?		

Conceptual—How do you use decimal operations to solve real-world problems? How are decimal/fraction operations similar to whole number operations? In what situations do we use division in our lives? When is it useful to decompose a number?

Debatable— Does being fluent in operations with decimal operations make our everyday lives easier?

MYP Objectives	Assessment Tasks	
<i>What specific MYP objectives will be addressed during this unit?</i>	Relationship between summative assessment task(s) and statement of inquiry:	<i>List of common formative and summative assessments.</i>
Criterion A: Knowing and Understanding Criterion D: Applying Mathematics in Real-life Contexts	Students will use models to represent the relationship between whole numbers, fractions and decimals after performing the four basic operations.	Formative Assessment(s): Unit 1 Mid-unit Checkpoint Summative Assessment(s): Unit 1 Number System Fluency Topic 1 Performance Assessment Form A

Approaches to learning (ATL)

Give and receive meaningful feedback

Category:

Cluster:

Skill Indicator:

Learning Experiences

Add additional rows below as needed.

Objective or Content	Learning Experiences	Personalized Learning and Differentiation
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<p>MGSE7.NS.3 Solve real-world and mathematical problems involving the four operations with rational numbers.</p> <p>Standards for Mathematical Practices</p> <p>SMP 1: Make sense of problems</p> <p>SMP 7: Look for and make use of structure</p>	<p><u>You Write the Story</u></p> <p>This task helps students think through the structure of mathematical situations and the use of mathematical language to create real world problems that are represented by given mathematical problems.</p>	<p>Scaffolding is accomplished through the use of guided questions as they are needed for students who need support.</p>
<p>MGSE6.NS.2 Fluently divide multi-digit numbers using the standard algorithm.</p>	<p><u>How Many Staples?</u></p> <p><i>Illustrative Mathematics</i></p> <p>This task provides an opportunity for students to use division to solve a real-world problem. There are several ways students can approach this task which will provide the teacher and students an opportunity for rich mathematical discussion. This task would fall on the Adaption quadrant of the Rigor and Relevance framework because students must analyze and evaluate the correctness of a real-life staple package and then design a more accurate package.</p>	<p>This task has two versions. Version 1 does not have scaffolds and should be used with students who have shown mastery of the standard. Version 2 has explicit scaffolds for students need support to accomplish the task. Teachers should assign versions based on student data from previous work with the standard.</p>
Content Resources		