5 Math Unit 01: Math Is

Content Area: **Mathematics**
Course(s):
Time Period: **Marking Period 1**
Length: **10 Days**
Status: **Published**

Unit Overview

Understanding What Math Is

The focus of this unit is threefold:

- to build students' agency as doers of mathematics. It is important that students understand that math is not just something done in school. Math is part of our daily lives and shows up in almost every activity. It is also important that students see themselves as skilled doers of math, so help them understand that doing math is not carrying out operations or calculations. Rather, doing math is more accurately making sense of and solving problems and finding patterns and relationships among quantities and numbers. Lesson 1-1 helps students see themselves as doers of math as they examine their attitudes towards math and their images of themselves as doers of math.
- to build students' proficiency with the habits of mind that are integral to doing mathematics. These include the thinking captured by the practice and process standards found in many state standards for mathematics: that is, the thinking that makes up the problem-solving process and that is involved in finding patterns and relationships among quantities and values. Lessons 1-2 through 1-5 focus on helping students build proficiency with these habits of mind.
- to build understanding of the norms of interaction that allow for a productive math learning environment where students can develop, refine, and enhance the habits of mind that are integral to doing math. Lesson 1-6 offers the opportunity for students to develop together the classroom norms for math for the school year,.

What Students Are Learning

- Students refine their problem-solving skills as they consider alternative strategies for solving the problem presented.
- Students model real-world situations with a range of representations.
- Students construct arguments to critique the reasoning of classmates.
- Students use appropriate units in their calculations.
- Students make generalizations after noticing repeated calculations with operations.

Number Routines

- Problem Strings
- Math Pictures
- Notice & Wonder
- Which Doesn't Belong?

Standards

4.OA.C.5	Generate a number or shape pattern that follows a given rule. Identify apparent features of the pattern that were not explicit in the rule itself.
4.NF.A.2	Compare two fractions with different numerators and different denominators, e.g., by creating common denominators or numerators, or by comparing to a benchmark fraction

	such as 1/2. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with symbols >, =, or <, and justify the conclusions, e.g., by using a visual fraction model.
4.NF.B.3.d	Solve word problems involving addition and subtraction of fractions referring to the same whole and having like denominators, e.g., by using visual fraction models and equations to represent the problem.
4.NF.B.4	Apply and extend previous understandings of multiplication to multiply a fraction by a whole number.
4.NF.B.4.c	Solve word problems involving multiplication of a fraction by a whole number, e.g., by using visual fraction models and equations to represent the problem.

Materials

Core Materials:

Reveal Math

1.1 Math Is Mine

1.2 Math Is Exploring and Thinking

1.3 Math Is in My World

1.4 Math Is Explaining and Sharing

1.5 Math Is Finding Patterns

1.6 Math Is Ours

Supplemental Materials:

- ST Math
- Happy Numbers
- 3 Act Lessons
- Building Fact Fluency Kit
- Brainingcamp Manipulatives
- Nearpod Lessons
- Brainpop Resources
- Online Resources

Technology

Algorithms & Programming

8.1.2.AP.1: Model daily processes by creating and following algorithms to complete tasks.

8.1.2.AP.4: Break down a task into a sequence of steps.

Data & Analysis

8.1.2.DA.1: Collect and present data, including climate change data, in various visual formats.

• 8.1.2.DA.3: Identify and describe patterns in data visualizations.

• 8.1.2.DA.4: Make predictions based on data using charts or graphs.

Assessment

Formative Assessment

- Unit Readiness Diagnostics
- Lesson Checks
- Exit Tickets
- Teacher Observation

Summative Assessment

- Unit Assessment Performance Task
- Benchmark Tests
- Alternative Assessments: Performance Tasks & Projects

Accommodations & Modifications

Special Education

Differentiated Instruction			
Accommodate Based on Students Individual Needs: Strategies			
Time/General • Extra time for assigned tasks • Adjust length of assignment • Timeline with due dates for reports and projects • Communication system between home and school • Provide lecture	**Processing** • Extra response time • Have students verbalize steps • Repeat, clarify, or reword directions • Mini-breaks between tasks • Provide a warning for transitions	**Comprehension** • Precise step-by-step directions • Short manageable tasks • Brief and concrete directions • Provide	**Recall** • Teacher-made checklist • Use visual graphic organizers • Reference resources to promote independence

notes/outline	• Reading partners	immediate feedback • Small group instruction • Emphasize multi-sensory learning	• Visual and verbal reminders • Graphic organizers
Assistive Technology • Computer/whiteboard • Tape recorder • Spell-checker • Audio-taped books	**Tests/Quizzes/Grading** • Extended time • Study guides • Focused/chunked tests • Read directions aloud	**Behavior/Attention** • Consistent daily structured routine • Simple and clear classroom rules • Frequent feedback	**Organization** • Individual daily planner • Display a written agenda • Note-taking assistance • Color code materials

504

- In class/pull out support with special ed teacher Additional time during intervention time
- Preferred seating
- Questions read aloud
- Extended time for completing tasks Graphic organizers
- Vocabulary support Mnemonic devices
- Songs/videos to reinforce concepts Limit number of questions
- Scribe Manipulatives Calculators Reteach pages Leveled homework
- Lesson intervention activities
- Math Diagnosis & Intervention System Another look homework video
- Practice buddy

ELL

- Translation device/dictionary
- In class/pull out support with ESL teacher
- Preferred seating
- Questions read aloud
- Extended time for completing tasks
- Graphic organizers
- Vocabulary support
- Mnemonic devices
- Songs/videos to reinforce concepts
- Manipulatives

- Math Diagnosis & Intervention System

At-risk of Failure

- Additional time during intervention time
- Questions read aloud
- Graphic organizers
- Vocabulary support
- Mnemonic devices
- Songs/videos to reinforce concepts
- Manipulatives
- Calculators
- Reteach pages
- Leveled homework
- Lesson intervention activities
- Math Diagnosis & Intervention System
- Another look homework video
- Practice buddy

Gifted & Talented

- Independent projects
- Enrichment pages
- Online games
- Leveled Homework
- Extension Activities
- Today's Challenge

Interdisciplinary Connections

ELA:

RI.2.10. Read and comprehend informational texts, including history/social studies, science, and technical texts, at grade level text complexity proficiently with scaffolding as needed.

Science:

K-2-ETS1-2. Develop a simple sketch, drawing, or physical model to illustrate how the shape of an object helps it function as needed to solve a given problem.

Career Readiness, Life Literacies & Key Skills

Critical Thinking and Problem Solving

• 9.4.2.CT.2: Identify possible approaches and resources to execute a plan (e.g., 1.2.2.CR1b,

8.2.2.ED.3).

• 9.4.2.CT.3: Use a variety of types of thinking to solve problems (e.g., inductive, deductive).

Technology Literacy

• 9.4.2.TL.3: Enter information into a spreadsheet and sort the information.

• 9.4.2.TL.4: Navigate a virtual space to build context and describe the visual content.

9.4.2.TL.7: Describe the benefits of collaborating with others to complete digital tasks or develop digital artifacts

Career Ready Practices

- CRP1. Act as a responsible and contributing citizen and employee.
- CRP2. Apply appropriate academic and technical skills.
- CRP4. Communicate clearly and effectively and with reason.
- CRP8. Utilize critical thinking to make sense of problems and persevere in solving them.
- CRP12. Work productively in teams while using cultural global competence.