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Long Beach Island Consolidated School District Third Grade Mathematics Curriculum	
Content Area: Mathematics	
Course Title: Third Grade Mathematics	Grade Level: 3
Operations and Algebraic Thinking	40 days
Number and Operations in Base Ten	40 days
Number and Operations- Fractions	30 days
Measurement	30 days
Data Literacy	20 days
Geometry	20 days

Introduction

In Grade 3, instructional time should focus on four critical areas: (1) developing understanding of multiplication and division and strategies for multiplication and division within 100; (2) developing understanding of fractions, especially unit fractions (fractions with numerator 1); (3) developing understanding of the structure of rectangular arrays and of area; and (4) describing and analyzing two-dimensional shapes. Students develop an understanding of the meanings of multiplication and division of whole numbers through activities and problems. By comparing a variety of solution strategies, students learn the relationship between multiplication and division. Students develop an understanding of fractions, beginning with unit fractions. They solve problems that involve fractions by using visual fraction models and strategies based on noticing equal numerators or denominators. Students recognize area as an attribute of two-dimensional regions. Students describe, analyze, and compare properties of two-dimensional shapes

Alignment with State Mandates

The following colors are used throughout this document to indicate areas in which the curriculum is aligned with the following NJSA requirements:

- Holocaust and genocides ([N.J.S.A. 18A:35-28](#))
- History and contributions of African-Americans (Amistad Law) ([N.J.S.A. 18A:35-4.43](#))
- Highlight and promote diversity and inclusion (Diversity & Inclusion Law) ([N.J.S.A. 18A:35-4.36a](#))
- History of disabled and LGBT persons included in middle and high school curriculum ([Section 18A:35-4.35](#))
- Climate Change - to prepare students to understand how and why climate change happens, the impact it has on our local and global communities and to act in informed and sustainable ways. Please [click here](#) for specific examples (by subject).

*WIDA English Language Development Standards (N.J.S.A. 18A:35-15 to 26)

***WIDA English Language Development Standard 3** [WIDA English Language Development Standards Framework, 2020 Edition](#)

“New Jersey remains committed to supporting multilingual learners through policies and practices that promote access, equity, and academic success. The English Language Development Standards provide a framework for ensuring that multilingual learners receive the instruction and support necessary to develop English language proficiency while meeting the expectations of the New Jersey Student Learning Standards. Implementation of these standards across all content areas supports inclusive learning environments and advances New Jersey’s commitment to preparing all students for success beyond graduation. The English Language Development Standards are a shared responsibility across all content areas and support inclusive and equitable learning environments. The English Language Development standards are a foundational component of standards-aligned instruction, guiding educators in designing learning experiences that make the NJSLs accessible to all students. The English Language Development Standards are designed to be implemented by all educators who work with multilingual learners. Classroom teachers, ESL and bilingual educators, specialists, and administrators share responsibility for ensuring that multilingual learners receive appropriate linguistic and academic support. Educators are encouraged to use these resources alongside the full framework when planning instruction, identifying language expectations, and designing opportunities for multilingual learners to engage meaningfully with grade-level content. ”

Mathematical Practices Guidance and WIDA Language Expectations

“The Standards for Mathematical Practice in the New Jersey Student Learning Standards-Mathematics (NJSLs - Mathematics: [2023 Standards for Mathematical Practice](#)) describe varieties of expertise that mathematics educators at all levels should seek to develop in their students.” The table below lists the mathematical practices, and provides suggestions and strategies along with WIDA Language Expectations for supporting students in developing mathematical thinking and problem-solving skills.

Math Practice	Guidance for Developing Mathematical Thinking	WIDA Language Expectation Focus
Make sense of problems and persevere in solving them	Understanding the problem: ● Explain the main problem and the given facts in your own words. ● State what you need to find and notice about the details. ● Describe how the numbers or items connect to each other. Planning and Strategy ● List what you already tried and steps used so far. ● Think of different ways to organize or show the information. ● Find other similar problems to help you get started. Checking and Changing ● Name the steps you are most confident with. ● Decide what to change or try next.	Explain/Inform: Describe solution pathways and unpack meaning from a problem statement.
Reason abstractly and quantitatively	Quantities and Meanings ● Understand what the numbers represent and their relationships to each other (ex. How is ___ related to ___?) ● Understand visual or written signs that stand for math ideas. Methods and Properties ● Explain the math rules used to work out an answer. ● Explain why a specific tool or step was used. ● Explain whether a different rule or operation could work instead.	Explain: Relate abstract symbols, quantities, and numerical expressions to real-world contexts
Construct viable arguments and critique the reasoning of others	Evidence ● Explain the evidence that supports your answer. ● Explain how you can prove... ● Explain how you know what the problem was asking. ● Explain what didn't work and why ● Show a counter example.	Argue: Justify mathematical solutions, compare reasoning methods, and respectfully challenge peers' claims.
Model with	Modeling	Inform/Explain: Represent

mathematics	• Construct a model to represent the problem. • Explain how you can represent the quantities. • Create an equation or expression that matches the diagram, chart, or table. • Explain what formula might apply to the problem.	mathematical relationships visually, contextually, or via equations and diagrams.
Use appropriate tools strategically	Tools • Describe tools that can be used. • Describe what information you have. • Estimate. • Determine which tool would be most helpful. • Describe what a _____ can show that _____ may not.	Inform: Describe the choice of tools (such as graphs, calculators, or manipulatives) and how they support calculations.
Attend to precision	Precision • Communicate math terms being used. • Explain how your solution answers the problem • Explain how you show the meaning of the quantities. • Explain what symbols are important. • Explain how you could test your solution to see if it answers the problem.	Inform: Communicate precise mathematical vocabulary, units of measure, and clear labels.
Look for and make use of structure	Structure • Describe observations/noticings. • Describe patterns you find. • Describe what can be eliminated. • Describe how this relates to ... • Explain how this connects to other math concepts.	Explain: Describe patterns, operational properties, or structural compositions within expressions or shapes.
Look for and express regularity in repeated reasoning	• Describe what you notice. • Describe trends or rules for • Explain how you can prove... • Predict or explain to support patterns.	Explain: Generalize repeating processes and describe trends or rules using consistent language structures.

Unit: 1 Operations and Algebraic Thinking	Duration: 40 Days
Standards/Learning Targets	
● 3.OA.A.1 Interpret products of whole numbers, e.g., interpret 5×7 as the total number of objects in 5 groups of 7 objects each. For example, describe and/or represent a context in which a total number of objects can be expressed as 5×7. ● 3.OA.A.2 Interpret whole-number quotients of whole numbers, e.g., interpret $56 \div 8$ as the number of objects in each share when 56 objects are partitioned equally into 8 shares, or as a number of shares when 56 objects are partitioned into equal shares of 8 objects each. For example, describe and/or represent a context in which a number of shares or a number of groups can be expressed as $56 \div 8$. ● 3.OA.A.3 Use multiplication and division within 100 to solve word problems in situations involving equal groups, arrays, and measurement quantities, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem. ● 3.OA.A.4 Determine the unknown whole number in a multiplication or division equation relating three whole numbers. For example, determine the unknown number that makes the equation true in each of the equations $8 \times ? = 48$, $5 = \diamond \div 3$, $6 \times 6 = ?$. ● 3.OA.B.5 Apply properties of operations as strategies to multiply and divide.2 Examples: If $6 \times 4 = 24$ is known, then $4 \times 6 = 24$ is also known. (Commutative property of multiplication.) $3 \times 5 \times 2$ can be found by $3 \times 5 = 15$, then $15 \times 2 = 30$, or by $5 \times 2 = 10$, then $3 \times 10 = 30$. (Associative property of multiplication.) Knowing that $8 \times 5 = 40$ and $8 \times 2 = 16$, one can find 8×7 as $8 \times (5 + 2) = (8 \times 5) + (8 \times 2) = 40 + 16 = 56$. (Distributive property.) ● 3.OA.B.6 Understand division as an unknown-factor problem. For example, find $32 \div 8$ by finding the number that makes 32 when multiplied by 8.	

- **3.OA.C.7** With accuracy and efficiency, multiply and divide within 100, using strategies such as the relationship between multiplication and division (e.g., knowing that $8 \times 5 = 40$, one knows $40 \div 5 = 8$) or properties of operations. By the end of Grade 3, know from memory all products of two one-digit numbers.
- **3.OA.D.8** Solve two-step word problems, including problems involving money, using the four operations. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding. (Clarification: This standard is limited to problems posed with whole numbers and having whole numbers answers; students should know how to perform operations in the conventional order when there are no parentheses to specify a particular order) (Order of Operations)
- **3.OA.D.9** Identify arithmetic patterns (including patterns in the addition table or multiplication table), and explain them using properties of operations.

Supporting and Additional Standards

Primary Interdisciplinary Connections:

- **RI.3.1** Ask and answer questions, and make relevant connections to demonstrate understanding of a text, referring explicitly to the text as the basis for the answers.
- **SL.3.3** Ask and answer questions about information from a speaker, offering appropriate elaboration and detail.
- **MP.2** Reason abstractly and quantitatively.

- **WIDA ELD STANDARD 3 Language for Mathematics**
- **ELD-MA.2-3.Explain.Expressive-** Construct mathematical explanations that • Introduce concept or entity • Describe solution and steps used to solve problem with others • State reasoning used to generate solution
- **ELD-MA.2-3.Explain.Interpretive**
- Interpret mathematical explanations by • Identifying concept or entity • Analyzing plan for problem-solving steps • Evaluating simple pattern or structure
- **WIDA ELD STANDARD 1 Social and Instructional Language**
- **ELD-SI.K-3.Explain-** Share initial thinking with others
- **ELD-SI.K-3.Argue-** Ask questions about others' opinions • Support own opinions with reasons • Clarify and elaborate ideas based on feedback • Defend change in one's own thinking • Revise one's own opinions based on new information

Computer Science and Design Thinking

- **8.1.5.IC.1:** Identify computing technologies that have impacted how individuals live and work and describe the factors that influenced the changes.
- **8.1.5.IC.2:** Identify possible ways to improve the accessibility and usability of computing technologies to address the diverse needs and wants of users.

Career Readiness, Life Literacies, and Key Skills

- **9.2.5.CAP.1:** Evaluate personal likes and dislikes and identify careers that might be suited to personal likes.
- **9.2.5.CAP.3:** Identify qualifications needed to pursue traditional and non-traditional careers and occupations.

Evidence of Student Learning

Performance Tasks/Use of Technology:

Use online websites to practice and master mathematical facts and fluency to enhance and extend learning.

[Array Picture Cards](#)

[Building Arrays](#)

[multiplication.com](#)

- Performance Tasks
 - Students act as "Math Detectives." They receive a "Case File" containing a multi-step math story about a baker missing some cupcakes. Detectives must create a visual model of the mystery, write the matching equations, and record a "Case Report" explaining how they tracked down the final answer.

Other Assessments

Formative

- Teacher Observation
- Performance Assessments
- Exit Slips
- Anecdotal Records
- Oral Assessments/Conferencing
- Portfolio/Math Journals
- Daily Classwork
- Pre-assessments

Summative

- Unit Review Assessments
- Unit Associated Tests & Quizzes
- Performance Tasks

Benchmark

- District Approved Assessments

Alternative

- Untimed Fact Practice Assessment
- Reteach Activities and Worksheets
- Project Based Assessments with Scoring Rubric

WIDA-Aligned Evaluative Criteria

- **Mathematical Accuracy:** Writes correct equations and calculates the accurate sum or difference.
- **Discourse Dimension (Organization):** Explains the steps of the problem in chronological order.
- **Sentence Dimension (Grammar):** Uses past-tense action verbs and conditional clauses (*"Since she gave away 15, I had to subtract"*).
- **Word Dimension (Vocabulary):** Employs precise operational words (*sum, difference, total, remaining, equation*) instead of just "plus" or "minus."

Knowledge and Skills

Content

Unit Essential Questions:

- What are the Commutative, Associative, and Distributive Properties that can be used as strategies to add and multiply whole numbers?
- When and why do you solve division of whole numbers by representing the problem as an unknown factor problem?
- How do you multiply and divide within using strategies such as the relationship between multiplication and division?

Enduring Understandings

Students will know: "I can..."

- Students will know Commutative, Associative, and

Skills

Students will be able to:

- Understand properties of multiplication and the relationship between multiplication and division.
- Multiply and divide within 100.
- Represent and solve problems involving multiplication and division.
- Solve problems involving the four operations, and identify and explain patterns in arithmetic.
- Two numbers can be multiplied in any order and the product remains the same.
- Some real-world problems involving joining or separating equal groups or comparison can be solved using multiplication.
- Basic facts and place-value patterns can be used to find

Distributive Properties strategies to add and multiply whole numbers. • Division of whole numbers by representing the problem as an unknown factor problem. • Multiply and divide within 40 using strategies such as the relationship between multiplication and division. • Multiplication within 100 to solve word problems using measurement quantities by using drawings. • Solve word problems modeled as equal groups or arrays by writing equations to represent equal groups or arrays. • Arithmetic patterns in addition or multiplication tables and explain the pattern using the properties of operations? • Multiply and divide within 50, using the relationship between multiplication and division (e.g., if $44 \div 2$ equals 22, then 22×2 must equal 44). • Find the value of an unknown (expressed as a letter) in an equation that is a representation of a two-step word problem (with any four operations) and assess the reasonableness of the value. • Solve problems involving the four operations, and identify and explain the patterns seen.	products when one factor is a multiple of 10. • Patterns and known facts can be used to find unknown multiplication facts. • Three or more numbers can be grouped and multiplied in any order • Repeated subtraction involves separating equal groups and is one way to think about division. • Multiply and divide within 100, using various strategies of two one-digit numbers. • Solve two-step word problems, including problems involving money, using the four operations. • Identify arithmetic patterns in the addition table or multiplication table, and explain them using properties of operations.
Instructional Plan	
Suggested Activities	Resources
• Place Value Game- Students will be participating in a game that demonstrates their knowledge of place value. In two teams, students will send one person at a time to come to the board, where they will place sentence strips over numbers identifying the correct place value.	• District approved text. • District approved online supplemental resources; IXL, i-Ready, Khan Academy. Reflex Math, XtraMath

Students will work as a team to complete a 4+ digit number with correct place values.

- Collections of materials and manipulatives
- Multiplication War Card Game
- Multiplication Bingo
-  Additional Resources by Standard

Suggested Options for Differentiation

Multi-Language Learners

- Differentiate instruction and classroom assessment as guided by the [WIDA English Language Development Standards Framework, 2020 Edition](#).
- Use instructional strategies that scaffold learning for MLs and use “Can Do Descriptors” [Can Do Descriptors KE Y USES EDITION Grades 2-3](#)
- Follow the Individualized Educational Plans (IEP) for ML Special Education (SE) students.
- Encourage the ML student to use oral language. Discussions, especially pair-work, allow students to expand language usage in listening and speaking.
- Allow MLs to clarify ideas, make sense of their previous statements and elaborate on their views with specific explanations.
- Use wait time for MLs to express their ideas in class.
- Graphic organizers, color-coded anchor charts, word walls with visual imagery, and breakdown techniques for decoding dense mathematical word problems
- Structured talk protocols (Think-Pair-Share, Numbered Talks) and word banks
- Simplify written and verbal instructions
- Provide written directions with models and diagrams when possible
- Build in more group work to allow ML students to interact and communicate with peers
- Provide vocabulary ahead of time
- Use sentence frames to give students practice with academic language
- Pre-teach as often as possible- share videos, articles, vocabulary etc. with ML students prior to use in class
- Utilize visual charts/cues
- Highlight key words
- Provide manipulatives
- Frequently check for understanding
- Involve families in student learning

- Provide social/emotional support
- Respect cultural traditions
- Show photos, videos, and definitions when possible for culturally unique vocabulary
- Provided students with necessary academic resources and materials
- Allow for alternative assignments
- Provide visuals
- Support verbal explanations with non verbal cues: Gestures/ facial expressions Props, realia, manipulatives, concrete materials Visuals, graphs, pictures, maps

Special Education/504 Plans

- Follow specific students accommodations and modifications as listed in individual student IEPs
- Preferential seating.
- Provide special lighting or acoustics.
- Provide a space with minimal distractions.
- Administer a test in a small group setting.
- Behavior management support.
- Adjusted class schedules or grading.
- Extended time on tests and assignments.
- Verbal, visual, or technology aids

Gifted and Talented

- Differentiated assignments/projects/assessments
- Differentiate learning pace using curriculum acceleration
- Curriculum compacting
- Open ended/abstract questions to activate higher level thinking
- Alternative modes of communication
- Student developed extension activities
- Plan self directed inquiry
- Opportunities to push assessment/activity boundaries
- Self centered curriculum allowing for student choice

Students at Risk of School Failure

- Ensure child has access to all appropriate academic resources both in school and at home
- Provide structure and adhere to a consistent daily routine with clear and concise rules
- Facilitate successful experiences

- Provide tutoring if needed
- Allow students to complete assignments in school
- Do not penalize for late or missing assignments/materials
- Offer encouragement and understanding
- Allow students to have personal possessions and property in school
- Give choice to provide a sense of control
- Provide clear, achievable expectations, do not lower academic requirements for them.
- Build a safe and nurturing atmosphere
- Be flexible with assignments
- Offer several alternatives from which all students can choose.
- Allow students to finish assignments independently, or give them the opportunity to complete tasks at their own pace.
- Use real-world examples and create mental models for abstract idea
- Provide increased knowledge base and vocabulary use about real world experiences.
- Share the decision making in class.
- Maintain expectations while offering choice and soliciting input

Core Instructional and Supplemental Materials

- District Approved Mathematics Program: Envision Mathematics 2020, Topics 1, 2, 3, 4, 5, 7, 8, 10, 11, 14
- STEM Projects from Envision Mathematics
- Pick-A-Project from Envision Mathematics
- Safari Park by Stuart Murphy
- One Hundred Hungry Ants by Elinor Pinczes
- A Remainder of One by Elinor Pinczes
- Best of Times by Greg Tang
- Math for All Seasons by Greg Tang
- Mathterpieces by Greg Tang

Teacher Notes:

Unit 2: Number and Operations in Base Ten	Duration: 40 days
Standards/Learning Targets	
● 3.NBT.A.1 Use place value understanding to round whole numbers to the nearest 10 or 100. ● 3.NBT.A.2 Fluently add and subtract within 1000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction. ● 3.NBT.A.3 Multiply one-digit whole numbers by multiples of 10 in the range 10–90 (e.g., 9×80, 5×60) using strategies based on place value and properties of operations.	
Supporting and Additional Standards	
Primary Interdisciplinary Connections: ● RI.3.1 Ask and answer questions, and make relevant connections to demonstrate understanding of a text, referring explicitly to the text as the basis for the answers. ● RI.3.7 Use information gained from illustrations and the words in a text to demonstrate understanding of the text ● MP.5 Use appropriate tools strategically	

Computer Science and Design Thinking

- **8.1.5.DA.1:** Collect, organize, and display data in order to highlight relationships or support a claim.
- **8.1.5.AP.4:** Break down problems into smaller, manageable sub-problems to facilitate program development.

- **WIDA Standard:** ELD Standard 3 – Language for Mathematics- **Key Language Use (KLU): Argue** (Justifying why one number is greater than or less than another)
ELD-MA.2-3.Argue.Interpretive Interpret mathematics arguments by ● Identifying conjectures about what might be true ● Distinguishing connections among ideas in justifications ● Extracting mathematical operations and facts from solution strategies to create generalizations
ELD-MA.2-3.Argue.Expressive Construct mathematics arguments that ● Create conjecture using definitions ● Generalize commonalities across cases ● Justify conclusion steps and strategies in simple patterns ● Identify and respond to others' arguments
- **WIDA ELD STANDARD 1 Social and Instructional Language**
- **ELD-SI.K-3.Explain-** Share initial thinking with others
- **ELD-SI.K-3.Argue-** Ask questions about others' opinions ● Support own opinions with reasons ● Clarify and elaborate ideas based on feedback ● Defend change in one's own thinking ● Revise one's own opinions based on new information

Evidence of Student Learning

Performance Tasks/Use of Technology: Use online websites to practice and master mathematical facts and fluency to enhance and extend learning.

[Factor Trees](#)

[Number Line frog Hop](#)

Other Assessments

Formative

- Teacher Observation
- Performance Assessments
- Exit Slips
- Anecdotal Records
- Oral Assessments/Conferencing
- Portfolio/Math Journals
- Daily Classwork
- Pre-assessments

Summative

- Unit Review Assessments
- Unit Associated Tests & Quizzes

	• Performance Tasks Benchmark • District Approved Assessments Alternative • Untimed Fact Practice Assessment • Reteach Activities and Worksheets • Project Based Assessments with Scoring Rubric
Knowledge and Skills	
Content	Skills
Essential Questions: • How do you interpret products of whole numbers as repeated addition or equal groups of objects up to 100? • How do you round whole numbers to the nearest 10 or 100? • What are the steps to fluently add and subtract (with regrouping) two 2-digit whole numbers within 100? • How can sums and differences be found mentally? • How can sums and differences be estimated? • What are standard procedures for adding and subtracting whole numbers? • How can you multiply one-digit whole numbers by multiples of 10? • How does place value knowledge help when performing multi-digit operations? Enduring Understandings Students will know: “I can...” • Students will know how to interpret products of whole numbers as repeated addition or equal groups of objects. • Round whole numbers to the nearest 10 or 100. • Add and subtract (with regrouping) two 2-digit whole	Students will be able to: • Interpret products. • Round whole numbers. • Add and subtract with regrouping. • Two numbers can be added in any order; the sum of any number and 0 is that number; and three or more numbers can be grouped and added in any order. • Different numerical expressions can have the same value or the value of one expression can be less than the value of the other expression. • An equation shows a balance between what is on the right side and what is on the left side of the equal sign. • Place-value relations can help simplify subtracting across zero. • Three or more whole numbers can be grouped and added in any order. Math Understanding: Word problems are mathematical stories where actions (like joining, separating, or comparing) dictate the operations needed.

numbers within 100. - Find sums and differences be mentally. - Estimate sums and differences. - Multiply one-digit whole numbers by multiples of 10. - Use place value knowledge when performing multi-digit operations.	Language Understanding: Solving problems requires translating everyday narrative language into mathematical symbols and structures.
Instructional Plan	
Suggested Activities	Resources
<u>Multiples of 10 Shopping list</u>- Students are given a shopping list and have to purchase enough items for the class. - Collections of materials and manipulatives Rounding to 50 or 500 BrainPop.com  Additional Resources by Standard	- District approved text. - District approved online supplemental resources; IXL, i-Ready, Khan Academy. Reflex Math, XtraMath Language Demands Students will explain how they solved a word problem using comparative language and conditional sentence frames.
Suggested Options for Differentiation	
Multi-Language Learners: - Differentiate instruction and classroom assessment as guided by the WIDA English Language Development Standards Framework, 2020 Edition. - Use instructional strategies that scaffold learning for MLs and use “Can Do Descriptors” Can Do Descriptors KE Y USES EDITION Grades 2-3 - Follow the Individualized Educational Plans (IEP) for ML Special Education (SE) students. - Encourage the ML student to use oral language. Discussions, especially pair-work, allow students to expand language usage in listening and speaking. - Allow MLs to clarify ideas, make sense of their previous statements and elaborate on their views with specific explanations. - Use wait time for MLs to express their ideas in class. - Graphic organizers, color-coded anchor charts, word walls with visual imagery, and breakdown techniques for decoding	

dense mathematical word problems

- Structured talk protocols (Think-Pair-Share, Numbered Talks) and word banks
- Simplify written and verbal instructions
- Provide written directions with models and diagrams when possible
- Build in more group work to allow Multilingual Learner students to interact and communicate with peers
- Provide vocabulary ahead of time
- Use sentence frames to give students practice with academic language
- Pre-teach as often as possible- share videos, articles, vocabulary etc. with Multilingual Learner students prior to use in class
- Utilize visual charts/cues
- Highlight key words
- Provide manipulatives
- Frequently check for understanding

Special Education//Students with Disabilities:

- Follow specific students accommodations and modifications as listed in individual student IEP or 504 plan
- Provide opportunities for movement
- Have manipulatives and other math resources available for student use
- Incorporate small group instruction
- Utilize visual charts/cues
- Facilitate successful experiences
- Provide tutoring if needed
- Provide positive praise to increase motivation

504 Plan:

- Behavior management support.
- Adjusted class schedules or grading.
- Extended time on tests and assignments.
- Verbal, visual, or technology aids.

Gifted and Talented:

- Differentiated assignments/projects/assessments
- Differentiate learning pace using curriculum acceleration
- Curriculum compacting
- Open ended/abstract questions to activate higher level thinking
- Alternative modes of communication

- Student developed extension activities
- Plan self directed inquiry
- Student created rubrics
- Opportunities to push assessment/activity boundaries
- Self centered curriculum allowing for student choice

Students In Need of Academic Support:

- Ensure child has access to all appropriate academic resources both in school and at home
- Provide structure and adhere to a consistent daily routine with clear and concise rules
- Facilitate successful experiences
- Provide tutoring if needed
- Allow students to complete assignments in school
- Do not penalize for late or missing assignments/materials
- Offer encouragement and understanding
- Allow students to have personal possessions and property in school
- Give choice to provide a sense of control

Economically Disadvantaged:

- Provide clear, achievable expectations, do not lower academic requirements for them.
- Build a safe and nurturing atmosphere
- Be flexible with assignments
- Offer several alternatives from which all students can choose.
- Allow students to finish assignments independently, or give them the opportunity to complete tasks at their own pace.
- Use real-world examples and create mental models for abstract idea
- Provide increased knowledge base and vocabulary use about real world experiences.
- Share the decision making in class.
- Maintain expectations while offering choice and soliciting input

Culturally Diverse:

- Involve families in student learning
- Provide social/emotional support
- Respect cultural traditions
- Build in more group work to encourage interaction with peers
- Show photos, videos, and definitions when possible for culturally unique vocabulary
- Teach study skills

- Provided students with necessary academic resources and materials
- Allow for alternative assignments
- Provide visuals
- Assign peer tutor
- Support verbal explanations with non verbal cues: Gestures/ facial expressions Props, realia, manipulatives, concrete materials Visuals, graphs, pictures, maps
- Provide positive praise to increase motivation
- Provide real world connections and emphasize the value of education
- Communicate high expectations for the success of all students
- Integrate the arts into learning activities

Climate Change:

- Students may solve two-step word problems involving a climate change related issue in their school, such as food waste, recycling, reusing and/or reducing the consumption of goods. They may add and subtract within 100 while using drawing or equations to represent the climate change related issue.

Core Instructional and Supplemental Materials

- District Approved Mathematics Program: Envision Mathematics 2020, Topics 8, 9, 10
- STEM Projects from Envision Mathematics
- Pick-A-Project from Envision Mathematics

Varied Levels of Text:

- Annabelle Swift, Kindergartner by Amy Schwartz
- Bats on Parade by Kathi Appelt
- Best of Times by Greg Tang
- One Hundred Hungry Ants by Elinor Pinczes
- Grapes of Math by Greg Tang
- The Doorbell Rang by Pat Hutchings
- Divide and Ride by Stuart J. Murphy
- Hershey's Kisses by Jerry Pallotta

Teacher Notes:

Unit 3: Number and Operations-Fractions	Duration: 30 days
Standards/Learning Targets	
● 3.NF.A.1 Understand a fraction $1/b$ as the quantity formed by 1 part when a whole is partitioned into b equal parts; understand a fraction a/b as the quantity formed by a parts of size $1/b$. For example: If a rectangle (i.e. the whole) is partitioned into 3 equal parts, each part is $1/3$. Two of those parts would be $2/3$. ● 3.NF.A.2a Represent a fraction $1/b$ on a number line diagram by defining the interval from 0 to 1 as the whole and partitioning it into b equal parts. Recognize that each part has size $1/b$ and that the endpoint of the part based at 0 locates the number $1/b$ on the number line. For example, partition the number line from 0 to 1 into 3 equal parts, represent $1/3$ on the number line and show that each part has a size $1/3$. ● 3.NF.A.2b Represent a fraction a/b on a number line diagram by marking off a lengths $1/b$ from 0. Recognize that the resulting interval has size a/b and that its endpoint locates the number a/b on the number line. ● 3.NF.A.3a Understand two fractions as equivalent (equal) if they are the same size. Understand two fractions as equivalent if they are located at the same point on a number line. ● 3.NF.A.3b Recognize and generate simple equivalent fractions by reasoning about their size, (e.g., $1/2 = 2/4$, $4/6 = 2/3$). Explain why the fractions are equivalent, e.g., by using a visual fraction model. ● 3.NF.A.3c Express whole numbers as fractions, and recognize fractions that are equivalent to whole numbers. Examples: Express 3 in the form $3 = 3/1$; recognize that $6/1 = 6$; locate $4/4$ and 1 at the same point on a number line diagram. ● 3.NF.A.3d Compare two fractions with the same numerator or the same denominator by reasoning about their size. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with the symbols $>$, $=$, or $<$, and justify the conclusions, with the support of a visual fraction model.	
Supporting and Additional Standards	
Primary Interdisciplinary Connections: ● W.3.8 Recall information from experiences or gather information from print and digital sources; take brief notes on sources and sort evidence into provided categories. ● SL.3.3 Ask and answer questions about information from a speaker, offering appropriate elaboration and detail. ● MP.4 Model with mathematics.	

- **WIDA Standard:** ELD Standard 3 – Language for Mathematics- **Key Language Use (KLU): Argue** (Justifying why one number is greater than or less than another)
ELD-MA.2-3.Argue.Interpretive Interpret mathematics arguments by ● Identifying conjectures about what might be true ● Distinguishing connections among ideas in justifications ● Extracting mathematical operations and facts from solution strategies to create generalizations
ELD-MA.2-3.Argue.Expressive Construct mathematics arguments that ● Create conjecture using definitions ● Generalize commonalities across cases ● Justify conclusion steps and strategies in simple patterns ● Identify and respond to others' arguments
- **WIDA ELD STANDARD 1 Social and Instructional Language**
- **ELD-SI.K-3.Explain-** Share initial thinking with others
- **ELD-SI.K-3.Argue-** Ask questions about others' opinions ● Support own opinions with reasons ● Clarify and elaborate ideas based on feedback ● Defend change in one's own thinking ● Revise one's own opinions based on new information

Computer Science and Design Thinking

- **8.1.5.DA.2:** Compare the amount of storage space required for different types of data.

Career Readiness, Life Literacies, and Key Skills

- **9.2.5.CAP.5:** Identify various employee benefits, including income, medical, vacation time, and lifestyle benefits provided by different types of jobs and careers.

Evidence of Student Learning

Performance Tasks/Use of Technology: Use online websites to practice and master mathematical facts and fluency to enhance and extend learning.

[Naming a Whole or a Fraction](#)

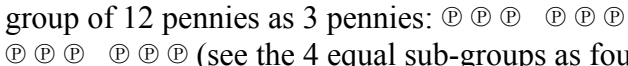
[Fractions on a Number Line](#)

[Fraction Games](#)

Other Assessments

Formative

- Teacher Observation
- Performance Assessments
- Exit Slips
- Anecdotal Records
- Oral Assessments/Conferencing
- Portfolio/Math Journals
- Daily Classwork

	• Pre-assessments Summative • Unit Review Assessments • Unit Associated Tests & Quizzes • Performance Tasks Benchmark • District Approved Assessments Alternative • Untimed Fact Practice Assessment • Reteach Activities and Worksheets • Project Based Assessments with Scoring Rubric
Knowledge and Skills	
Content	Skills
Essential Questions: • How do you Interpret the unit fraction $1/b$ as the quantity formed by 1 of b equal parts of a whole and the fraction a/b as the quantity formed by a part $1/b$; e.g., 3 unit fractions of $1/4$ add to the quantity $3/4$? • What are the representations of the equal parts of shapes as a unit fraction • How do you make a drawing of a number line depicting the position of $1/b$ (with $b = 2, 3, 4, 6$, or 8). • How do you represent the unit fraction $1/4$ on the number line? • How do you generate and explain equivalent fractions using visual fraction models, e.g., interpret $1/4$ of a group of 12 pennies as 3 pennies:  (see the 4 equal sub-groups as fourths)? • How do you generate and explain whole numbers as fractions, and locate them as fractions on a number line.	Students will be able to: • Interpret fractions. • Represent fractions. • Compare fractions. • Develop understanding of fractions as numbers. • Compare fractions with denominators.. • Compare fractions with the same numerator. • Find a unit-fractional part of a whole. • Labeled fractions or mixed numbers by counting the number of equal parts between two consecutive whole numbers. • Find equivalent fractions with the same point on a number line. • Language Understanding: Mathematical arguments require precise words and comparative structures to be

- How do you compare two fractions with the same numerator or the same denominator using the symbols $>$, $=$, $<$?

Enduring Understandings

Students will know: "I can..."

- Students will know how to interpret the unit fraction.
- Represent equal parts of shapes as a unit fraction.
- Make a drawing of a number line depicting the position of $1/b$ (with $b = 2, 3, 4, 6,$ or 8).
- Represent the unit fraction $1/4$ on the number line.
- Generate and explain equivalent fractions using visual fraction models.
- Generate and explain whole numbers as fractions, and locate them as fractions on a number line.
- Compare two fractions with the same numerator or the same denominator using the symbols $>$, $=$, $<$.

convincing.

Instructional Plan

Suggested Activities

- [Fraction Games](#) | [Decimal Games](#) | [Math Playground](#)
- Fraction Top It- Players flip over one fraction card and compare who has the greater fraction.
- Equivalent Fraction Strip Game- Use 5 strips of paper. Each strip represents 1 whole, halves, quarters, eighths, and sixteenths. Students play with a partner to roll a fraction dice to place the fraction represented on the dice onto the whole. First person to fill in their whole strip wins.
- Cut It Up- Students work with pizza plates to create different fractions and identify how as the denominator increases the size of each piece decreases

Resources

- District approved text.
- District approved online supplemental resources; IXL, i-Ready, Khan Academy. Reflex Math, XtraMath

Language Demands

Key Language Use (KLU): Argue (Justifying why one number is greater than or less than another)

Interpret mathematical explanations by • Identifying concept or entity • Analyzing plan for problem-solving steps • Evaluating simple pattern or structure

Construct mathematical explanations that • Introduce concept or entity • Describe solution and steps used to solve problem with others • State reasoning used to generate solution

- **Vocabulary:** Digit, value, place, hundreds, tens, ones, greater than, less than, equal to.
- **Language Structures:** "___ is greater than ___ because..." or "Even though ___ has a 9 in the ones place, it is smaller because..."

 Additional Resources by Standard

Suggested Options for Differentiation

Multi-Language Learners:

- Differentiate instruction and classroom assessment as guided by the [WIDA English Language Development Standards Framework, 2020 Edition](#).
- Use instructional strategies that scaffold learning for MLs and use “Can Do Descriptors” [Can Do Descriptors KE Y USES EDITION Grades 2-3](#)
- Follow the Individualized Educational Plans (IEP) for ML Special Education (SE) students.
- Encourage the ML student to use oral language. Discussions, especially pair-work, allow students to expand language usage in listening and speaking.
- Allow MLs to clarify ideas, make sense of their previous statements and elaborate on their views with specific explanations.

- Use wait time for MLs to express their ideas in class.
- Graphic organizers, color-coded anchor charts, word walls with visual imagery, and breakdown techniques for decoding dense mathematical word problems
- Structured talk protocols (Think-Pair-Share, Numbered Talks) and word banks
- Simplify written and verbal instructions
- Provide written directions with models and diagrams when possible
- Build in more group work to allow Multilingual Learner students to interact and communicate with peers
- Provide vocabulary ahead of time
- Use sentence frames to give students practice with academic language
- Pre-teach as often as possible- share videos, articles, vocabulary etc. with Multilingual Learner students prior to use in class
- Utilize visual charts/cues
- Highlight key words
- Provide manipulatives
- Frequently check for understanding

Special Education//Students with Disabilities:

- Follow specific students accommodations and modifications as listed in individual student IEP or 504 plan
- Provide opportunities for movement
- Have manipulatives and other math resources available for student use
- Incorporate small group instruction
- Utilize visual charts/cues
- Facilitate successful experiences
- Provide tutoring if needed
- Provide positive praise to increase motivation

504 Plan:

- Behavior management support.
- Adjusted class schedules or grading.
- Extended time on tests and assignments.
- Verbal, visual, or technology aids.

Gifted and Talented:

- Differentiated assignments/projects/assessments
- Differentiate learning pace using curriculum acceleration
- Curriculum compacting

- Open ended/abstract questions to activate higher level thinking
- Alternative modes of communication
- Student developed extension activities
- Plan self directed inquiry
- Student created rubrics
- Opportunities to push assessment/activity boundaries
- Self centered curriculum allowing for student choice

Students In Need of Academic Support:

- Ensure child has access to all appropriate academic resources both in school and at home
- Provide structure and adhere to a consistent daily routine with clear and concise rules
- Facilitate successful experiences
- Provide tutoring if needed
- Allow students to complete assignments in school
- Do not penalize for late or missing assignments/materials
- Offer encouragement and understanding
- Allow students to have personal possessions and property in school
- Give choice to provide a sense of control

Economically Disadvantaged:

- Provide clear, achievable expectations, do not lower academic requirements for them.
- Build a safe and nurturing atmosphere
- Be flexible with assignments
- Offer several alternatives from which all students can choose.
- Allow students to finish assignments independently, or give them the opportunity to complete tasks at their own pace.
- Use real-world examples and create mental models for abstract idea
- Provide increased knowledge base and vocabulary use about real world experiences.
- Share the decision making in class.
- Maintain expectations while offering choice and soliciting input

Culturally Diverse:

- Involve families in student learning
- Provide social/emotional support
- Respect cultural traditions
- Build in more group work to encourage interaction with peers

- Show photos, videos, and definitions when possible for culturally unique vocabulary
- Teach study skills
- Provide students with necessary academic resources and materials
- Allow for alternative assignments
- Provide visuals
- Assign peer tutor
- Support verbal explanations with non verbal cues: Gestures/ facial expressions Props, realia, manipulatives, concrete materials Visuals, graphs, pictures, maps
- Provide positive praise to increase motivation
- Provide real world connections and emphasize the value of education
- Communicate high expectations for the success of all students
- Integrate the arts into learning activities

Climate Change:

- Students may solve two-step word problems involving a climate change related issue in their school, such as food waste, recycling, reusing and/or reducing the consumption of goods. They may add and subtract within 100 while using drawing or equations to represent the climate change related issue.

Core Instructional and Supplemental Materials

- District Approved Mathematics Program: Envision Mathematics 2020, Topics 12, 13
- STEM Projects from Envision Mathematics
- Pick-A-Project from Envision Mathematics

Varied Levels of Text:

- Fraction Fun by David Adler
- Give Me Half! By Stuart Murphy
- Clean Sweep Campers by Lucille Recht Penner
- Hershey's Fractions Book by Jerry Pallotta
- Eating Fractions
- Each Orange Had 8 Slices
- Working with Fractions by David Adler
- The Wishing Club: A Story About Fractions by Donna Jo Napoli
- Fraction Action by Loreen Leedy
- Wholey Cow: Fractions Are Fun by Taryn Souder

Teacher Notes:

Unit 4: Measurement	Duration: 30 days
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Standards/Learning Targets	
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- **3.M.A.1** Tell and write time to the nearest minute and measure time intervals in minutes. Solve word problems involving addition and subtraction of time intervals in minutes, e.g., by representing the problem on a number line diagram.
- **3.M.A.2** Measure and estimate liquid volumes and masses of objects using standard units of grams (g), kilograms (kg), and liters (l). Add, subtract, multiply, or divide to solve one-step word problems involving masses or volumes that are given in the same units, e.g., by using drawings (such as a beaker with a measurement scale) to represent the problem. (Clarification: “Measure and estimate liquid volumes and masses” excludes compound units such as cm³ and finding the geometric volume of a container. “Multiplying to solve one-step word problems” excludes multiplicative comparison problems (problems involving “times as much”; See Glossary, Tables 2a–2d))
- **3.M.B.3** Recognize area as an attribute of plane figures and understand concepts of area measurement.
- **3.M.B.3a** A square with side length 1 unit, called “a unit square,” is said to have “one square unit” of area, and can be used to measure area.
- **3.M.B.3b** A plane figure which can be covered without gaps or overlaps by n unit squares is said to have an area of n square units.
- **3.M.B.4** Measure areas by counting unit squares (square cm, square m, square in, square ft, and nonstandard units).
- **3.M.B.5** Relate area to the operations of multiplication and addition.
- **3.M.B.5a** Find the area of a rectangle with whole-number side lengths by tiling it, and show that the area is the same as would be found by multiplying the side lengths.
- **3.M.B.5b** Multiply side lengths to find areas of rectangles with whole number side lengths in the context of solving real world and mathematical problems, and represent whole-number products as rectangular areas in mathematical reasoning.
- **3.M.B.5c** Use tiling to show in a concrete case that the area of a rectangle with whole-number side lengths a and $b + c$ is the sum of $a \times b$ and $a \times c$. Use area models to represent the distributive property in mathematical reasoning.
- **3.M.B.5d** Recognize area as additive. Find areas of rectilinear figures by decomposing them into non-overlapping rectangles and adding the areas of the non-overlapping parts, applying this technique to solve real world problems.

- **3.M.C.6** Solve real world and mathematical problems involving perimeters of polygons, including finding the perimeter given the side lengths, finding an unknown side length, and exhibiting rectangles with the same perimeter and different areas or with the same area and different perimeters.

Supporting and Additional Standards

Primary Interdisciplinary Connections:

- **W.3.8** Recall information from experiences or gather information from print and digital sources; take brief notes on sources and sort evidence into provided categories.
- **SL.3.3** Ask and answer questions about information from a speaker, offering appropriate elaboration and detail.
- **SL.3.4** Report on a topic or text, tell a story, or recount an experience with appropriate facts and relevant, descriptive details, speaking clearly at an understandable pace.
- **3.MD.A.2** Measure and estimate liquid volumes and masses of objects using standard units of grams (g), kilograms (kg), and liters (l). Add, subtract, multiply, or divide to solve one-step word problems involving masses or volumes that are given in the same units, e.g., by using drawings (such as a beaker with a measurement scale) to represent the problem.

- **WIDA Standard:** ELD Standard 3 – Language for Mathematics- **Key Language Use (KLU): Argue** (Justifying why one number is greater than or less than another)
ELD-MA.2-3.Argue.Interpretive Interpret mathematics arguments by • Identifying conjectures about what might be true • Distinguishing connections among ideas in justifications • Extracting mathematical operations and facts from solution strategies to create generalizations
ELD-MA.2-3.Argue.Expressive Construct mathematics arguments that • Create conjecture using definitions • Generalize commonalities across cases • Justify conclusion steps and strategies in simple patterns • Identify and respond to others' arguments
- **WIDA ELD STANDARD 1 Social and Instructional Language**
- **ELD-SI.K-3.Explain-** Share initial thinking with others
- **ELD-SI.K-3.Argue-** Ask questions about others' opinions • Support own opinions with reasons • Clarify and elaborate ideas based on feedback • Defend change in one's own thinking • Revise one's own opinions based on new information

Computer Science and Design Thinking

● 8.1.5.DA.1: Collect, organize, and display data in order to highlight relationships or support a claim.	
Career Readiness, Life Literacies, and Key Skills ● 9.2.5.CAP.2: Identify how you might like to earn an income ● 9.2.5.CAP.8: Identify risks that individuals and households face.	
Evidence of Student Learning	
Performance Tasks/Use of Technology: Use online websites to practice and master mathematical facts and fluency to enhance and extend learning. <u>Time Intervals</u> <u>More or Less than a Liter?</u>	Other Assessments Formative ● Teacher Observation ● Performance Assessments ● Exit Slips ● Anecdotal Records ● Oral Assessments/Conferencing ● Portfolio/Math Journals ● Daily Classwork ● Pre-assessments Summative ● Unit Review Assessments ● Unit Associated Tests & Quizzes ● Performance Tasks Benchmark ● District Approved Assessments Alternative ● Untimed Fact Practice Assessment ● Reteach Activities and Worksheets ● Project Based Assessments with Scoring Rubric
Knowledge and Skills	
Content	Skills

Essential Questions:

- How can you solve one-step word problems by estimating, measuring, and comparing liquid volumes and masses using appropriate tools and units?
- What are the customary units for measuring capacity and weight?
- What are the metric units for measuring capacity and mass?
- How can data be represented, interpreted, and analyzed?

Math Essential Question: Why do we need standard units to measure things?

Language Essential Question: How do we clearly explain a math rule to someone else?

Enduring Understandings

Students will know: "I can..."

- Students will solve one-step word problems by estimating, measuring, and comparing liquid volumes and masses using appropriate tools and units.
- Students will know the customary units for measuring capacity and weight.
- Students will understand the metric units for measuring capacity and mass.
- Students will see how data be represented, interpreted, and analyzed.

Math Understanding: The smaller the unit of measure, the more units are needed to measure the object.

Language Understanding: Explaining a math relationship requires sequential words and cause-and-effect sentence

Students will be able to:

- Use measurement and estimation to solve problems involving intervals of time, liquid volumes, and masses of objects.
- Measure capacity, mass, and weight.
- Relate area to addition and multiplication.
- Recognize the difference between perimeter and area.
- Solve problems involving measurement and estimation of intervals of time, liquid volumes, and masses of objects.
- Capacity is a measure of the amount of liquid a container can hold.
- Mass is a measure of the quantity of matter in an object. Weight and mass are different.
- The weight of an object is a measure of how heavy an object is.
- Geometric measurement: understand concepts of area and relate area to addition and multiplication.
- Geometric measurement: recognize perimeter as an attribute of plane figures and distinguish between linear and area measurements.

Content Objective: Students will measure the same object using inches and centimeters and record the difference.

Language Objective: Students will **explain** why the centimeter measurement is a larger number than the inch measurement using cause-and-effect language (*because, so, if/then*)

structures	
Key Language Use (KLU): Explain (Giving reasons for why measurement numbers change based on unit size)	
Instructional Plan	
Suggested Activities	Resources
- Activities with rulers and other measurement tools - Geoboard tasks involving creation of lines/shapes and measurement - Collections of items and manipulatives Brainpop.com - Geometry and Measurement  Additional Resources by Standard	- District approved text. - District approved online supplemental resources; IXL, i-Ready, Khan Academy. Reflex Math, XtraMath Language Demands vocabulary: Length, measure, estimate, unit, inch, centimeter, longer, shorter. Language Structures: Sequential transitions (<i>First, Next, Finally</i>) and causal structures (<i>"It took more because is smaller."</i>)
Suggested Options for Differentiation	
Multi-Language Learners: - Differentiate instruction and classroom assessment as guided by the WIDA English Language Development Standards Framework, 2020 Edition. - Use instructional strategies that scaffold learning for MLs and use “Can Do Descriptors” Can Do Descriptors KE Y USES EDITION Grades 2-3 - Follow the Individualized Educational Plans (IEP) for ML Special Education (SE) students. - Encourage the ML student to use oral language. Discussions, especially pair-work, allow students to expand language usage in listening and speaking. - Allow MLs to clarify ideas, make sense of their previous statements and elaborate on their views with specific explanations. - Use wait time for MLs to express their ideas in class. - Graphic organizers, color-coded anchor charts, word walls with visual imagery, and breakdown techniques for decoding	

dense mathematical word problems

- Structured talk protocols (Think-Pair-Share, Numbered Talks) and word banks
- Simplify written and verbal instructions
- Provide written directions with models and diagrams when possible
- Build in more group work to allow Multilingual Learner students to interact and communicate with peers
- Provide vocabulary ahead of time
- Use sentence frames to give students practice with academic language
- Pre-teach as often as possible- share videos, articles, vocabulary etc. with Multilingual Learner students prior to use in class
- Utilize visual charts/cues
- Highlight key words
- Provide manipulatives
- Frequently check for understanding

Special Education//Students with Disabilities:

- Follow specific students accommodations and modifications as listed in individual student IEP or 504 plan
- Provide opportunities for movement
- Have manipulatives and other math resources available for student use
- Incorporate small group instruction
- Utilize visual charts/cues
- Facilitate successful experiences
- Provide tutoring if needed
- Provide positive praise to increase motivation

504 Plan:

- Behavior management support.
- Adjusted class schedules or grading.
- Extended time on tests and assignments.
- Verbal, visual, or technology aids.

Gifted and Talented:

- Differentiated assignments/projects/assessments
- Differentiate learning pace using curriculum acceleration
- Curriculum compacting
- Open ended/abstract questions to activate higher level thinking
- Alternative modes of communication

- Student developed extension activities
- Plan self directed inquiry
- Student created rubrics
- Opportunities to push assessment/activity boundaries
- Self centered curriculum allowing for student choice

Students In Need of Academic Support:

- Ensure child has access to all appropriate academic resources both in school and at home
- Provide structure and adhere to a consistent daily routine with clear and concise rules
- Facilitate successful experiences
- Provide tutoring if needed
- Allow students to complete assignments in school
- Do not penalize for late or missing assignments/materials
- Offer encouragement and understanding
- Allow students to have personal possessions and property in school
- Give choice to provide a sense of control

Economically Disadvantaged:

- Provide clear, achievable expectations, do not lower academic requirements for them.
- Build a safe and nurturing atmosphere
- Be flexible with assignments
- Offer several alternatives from which all students can choose.
- Allow students to finish assignments independently, or give them the opportunity to complete tasks at their own pace.
- Use real-world examples and create mental models for abstract idea
- Provide increased knowledge base and vocabulary use about real world experiences.
- Share the decision making in class.
- Maintain expectations while offering choice and soliciting input

Culturally Diverse:

- Involve families in student learning
- Provide social/emotional support
- Respect cultural traditions
- Build in more group work to encourage interaction with peers
- Show photos, videos, and definitions when possible for culturally unique vocabulary
- Teach study skills

- Provided students with necessary academic resources and materials
- Allow for alternative assignments
- Provide visuals
- Assign peer tutor
- Support verbal explanations with non verbal cues: Gestures/ facial expressions Props, realia, manipulatives, concrete materials Visuals, graphs, pictures, maps
- Provide positive praise to increase motivation
- Provide real world connections and emphasize the value of education
- Communicate high expectations for the success of all students
- Integrate the arts into learning activities

Climate Change:

- Students may solve two-step word problems involving a climate change related issue in their school, such as food waste, recycling, reusing and/or reducing the consumption of goods. They may add and subtract within 100 while using drawing or equations to represent the climate change related issue.

Core Instructional and Supplemental Materials

- District Approved Mathematics Program: Envision Mathematics 2020, Topics 6, 7, 12, 14, 16
- STEM Projects from Envision Mathematics
- Pick-A-Project from Envision Mathematics

Varied Levels of Text:

- Inch by Inch by Leo Lionni
- Just a Little Bit by Ann Tompert

Teacher Notes:

Unit 5: Data Literacy	Duration: 20 days
Standards/Learning Targets	

- **3.DL.A.1** Develop data-based questions and decide what data will answer the question. (e.g., “What size shoe does a 3rd grader wear?”, “How many books does a 3rd grader read?”)
- **3.DL.A.2** Collect student-centered data (e.g. collect data on students’ favorite ice cream flavor) or use existing data to answer data-based questions.
- **3.DL.B.3** Draw a scaled picture graph and a scaled bar graph to represent a data set with several categories. Solve one- and two-step “how many more” and “how many less” problems using information presented in scaled bar graphs. For example, draw a bar graph in which each square in the bar graph might represent 5 pets.
- **3.DL.B.4** Generate measurement data by measuring lengths using rulers marked with halves and fourths of an inch. Show the data by making a line plot, where the horizontal scale is marked off in appropriate units—whole numbers, halves, or quarters.

Supporting and Additional Standards

Primary Interdisciplinary Connections:

- **RI.3.1** Ask and answer questions to demonstrate understanding of a text, referring explicitly to the text as the basis for the answers.
- **MP.4** Model with mathematics.
- **3.MD.B.3** Draw a scaled picture graph and a scaled bar graph to represent a data set with several categories. Solve one- and two-step “how many more” and “how many less” problems using information presented in scaled bar graphs.

WIDA Standard: ELD Standard 3 – Language for Mathematics- **Key Language Use (KLU): Argue** (Justifying why one number is greater than or less than another)

ELD-MA.2-3.Argue.Interpretive Interpret mathematics arguments by • Identifying conjectures about what might be true • Distinguishing connections among ideas in justifications • Extracting mathematical operations and facts from solution strategies to create generalizations

ELD-MA.2-3.Argue.Expressive Construct mathematics arguments that • Create conjecture using definitions • Generalize commonalities across cases • Justify conclusion steps and strategies in simple patterns • Identify and respond to others’ arguments

WIDA ELD STANDARD 1 Social and Instructional Language

- **ELD-SI.K-3.Explain-** Share initial thinking with others

- **ELD-SI.K-3.Argue-** Ask questions about others' opinions • Support own opinions with reasons • Clarify and elaborate ideas based on feedback • Defend change in one's own thinking • Revise one's own opinions based on new information

Computer Science and Design Thinking

- **8.1.5.DA.3:** Organize and present collected data visually to communicate insights gained from different views of the data.
- **8.1.5.DA.4:** Organize and present climate change data visually to highlight relationships or support a claim.

Career Readiness, Life Literacies, and Key Skills

- **9.2.5.CAP.7:** Identify factors to consider before starting a business

Evidence of Student Learning

Performance Tasks/Use of Technology: Use online websites to practice and master mathematical facts and fluency to enhance and extend learning.
[Gummy Bear Math](#)
[Reaction Time](#)

Other Assessments

Formative

- Teacher Observation
- Performance Assessments
- Exit Slips
- Anecdotal Records
- Oral Assessments/Conferencing
- Portfolio/Math Journals
- Daily Classwork
- Pre-assessments

Summative

- Unit Review Assessments
- Unit Associated Tests & Quizzes
- Performance Tasks

Benchmark

- District Approved Assessments

Alternative

- Untimed Fact Practice Assessment
- Reteach Activities and Worksheets

	Project Based Assessments with Scoring Rubric
Knowledge and Skills	
Content	Skills
Essential Questions: - How do line plots allow data to be compared more easily than in a list or a table? - How do line plots can be used to organize and represent data generated by measuring lengths? Enduring Understandings <i>Students will know: "I can..."</i> - Use line plots to compare data. - Use bar graphs to represent data.	Students will be able to: - Understand data-based questions and data collection. - Represent and interpret data. - In a bar graph, the scale determines how long the bar needs to be to represent each number in a set of data - The key for a pictograph determines the number of pictures needed to represent each number in a set of data. - Create graphs from data. - Interpret graphs based on key and scale.
Instructional Plan	
Suggested Activities	Resources
- Create survey questions and tally students - Create pictograph where key = 2 or more - Use rulers to measure to nearest whole and half. Then graph results. Brainpop.com - Geometry and Measurement  Additional Resources by Standard	- District approved text. - District approved online supplemental resources; IXL, i-Ready, Khan Academy. Reflex Math, XtraMath

Suggested Options for Differentiation

Multi-Language Learners:

- Differentiate instruction and classroom assessment as guided by the [WIDA English Language Development Standards Framework, 2020 Edition](#).
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 - Use wait time for MLs to express their ideas in class.
 - Graphic organizers, color-coded anchor charts, word walls with visual imagery, and breakdown techniques for decoding dense mathematical word problems
 - Structured talk protocols (Think-Pair-Share, Numbered Talks) and word banks
-
- Simplify written and verbal instructions
 - Provide written directions with models and diagrams when possible
 - Build in more group work to allow Multilingual Learner students to interact and communicate with peers
 - Provide vocabulary ahead of time
 - Use sentence frames to give students practice with academic language
 - Pre-teach as often as possible- share videos, articles, vocabulary etc. with Multilingual Learner students prior to use in class
 - Utilize visual charts/cues
 - Highlight key words
 - Provide manipulatives
 - Frequently check for understanding

Special Education//Students with Disabilities:

- Follow specific students accommodations and modifications as listed in individual student IEP or 504 plan
- Provide opportunities for movement
- Have manipulatives and other math resources available for student use
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- Utilize visual charts/cues

- Facilitate successful experiences
- Provide tutoring if needed
- Provide positive praise to increase motivation

504 Plan:

- Behavior management support.
- Adjusted class schedules or grading.
- Extended time on tests and assignments.
- Verbal, visual, or technology aids.

Gifted and Talented:

- Differentiated assignments/projects/assessments
- Differentiate learning pace using curriculum acceleration
- Curriculum compacting
- Open ended/abstract questions to activate higher level thinking
- Alternative modes of communication
- Student developed extension activities
- Plan self directed inquiry
- Student created rubrics
- Opportunities to push assessment/activity boundaries
- Self centered curriculum allowing for student choice

Students In Need of Academic Support:

- Ensure child has access to all appropriate academic resources both in school and at home
- Provide structure and adhere to a consistent daily routine with clear and concise rules
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- Provide tutoring if needed
- Allow students to complete assignments in school
- Do not penalize for late or missing assignments/materials
- Offer encouragement and understanding
- Allow students to have personal possessions and property in school
- Give choice to provide a sense of control

Economically Disadvantaged:

- Provide clear, achievable expectations, do not lower academic requirements for them.
- Build a safe and nurturing atmosphere

- Be flexible with assignments
- Offer several alternatives from which all students can choose.
- Allow students to finish assignments independently, or give them the opportunity to complete tasks at their own pace.
- Use real-world examples and create mental models for abstract idea
- Provide increased knowledge base and vocabulary use about real world experiences.
- Share the decision making in class.
- Maintain expectations while offering choice and soliciting input

Culturally Diverse:

- Involve families in student learning
- Provide social/emotional support
- Respect cultural traditions
- Build in more group work to encourage interaction with peers
- Show photos, videos, and definitions when possible for culturally unique vocabulary
- Teach study skills
- Provided students with necessary academic resources and materials
- Allow for alternative assignments
- Provide visuals
- Assign peer tutor
- Support verbal explanations with non verbal cues: Gestures/ facial expressions Props, realia, manipulatives, concrete materials Visuals, graphs, pictures, maps
- Provide positive praise to increase motivation
- Provide real world connections and emphasize the value of education
- Communicate high expectations for the success of all students
- Integrate the arts into learning activities

Climate Change

- Students may ask and answer questions about objects that may be reused, objects that may be recycled, and objects that must be placed in the trash. Students may organize used objects into those categories, and ask and answer questions about the total number of objects, how many are in each category, and how many more or fewer are in one category than in another.

Core Instructional and Supplemental Materials

- District Approved Mathematics Program: Envision Mathematics 2020, Topics 6, 7, 12, 14, 16
- STEM Projects from Envision Mathematics
- Pick-A-Project from Envision Mathematics

Varied Levels of Text:

- Strega Nona by Tomie dePaola
- Life-Size Zoo: From Tiny Rodents to Gigantic Elephants, An Actual-Size Animal Encyclopedia by Teruyuki Komiya

Teacher Notes:**Unit 6: Geometry****Duration: 20 days****Standards/Learning Targets**

- **3.G.A.1** Understand that shapes in different categories (e.g., rhombuses, rectangles, and others) may share attributes (e.g., having four sides), and that the shared attributes can define a larger category (e.g., quadrilaterals). Recognize rhombuses, rectangles, and squares as examples of quadrilaterals, and draw examples of quadrilaterals that do not belong to any of these subcategories.
- **3.G.A.2** Partition shapes into parts with equal areas. Express the area of each part as a unit fraction of the whole. For example, partition a shape into 4 parts with equal area, and describe the area of each part as $\frac{1}{4}$ of the area of the shape.

Supporting and Additional Standards**Primary Interdisciplinary Connections:**

- **RI.3.1** Ask and answer questions to demonstrate understanding of a text, referring explicitly to the text as the basis for the answers.
- **RI.3.3** Describe the relationship between a series of historical events, scientific ideas or concepts, or steps in technical procedures in a text, using language that pertains to time, sequence, and cause/effect.
- **MP.2** Reason abstractly and quantitatively.
- **MP.4** Model with mathematics.
- **MP.5** Use appropriate tools strategically.

Computer Science and Design Thinking

- **8.1.5.AP.5:** Modify, remix, or incorporate pieces of existing programs into one's own work to add additional features or create a new program.

- **WIDA Standard:** ELD Standard 3 – Language for Mathematics- **Key Language Use (KLU): Argue** (Justifying why one number is greater than or less than another)
ELD-MA.2-3.Argue.Interpretive Interpret mathematics arguments by ● Identifying conjectures about what might be true ● Distinguishing connections among ideas in justifications ● Extracting mathematical operations and facts from solution strategies to create generalizations
ELD-MA.2-3.Argue.Expressive Construct mathematics arguments that ● Create conjecture using definitions ● Generalize commonalities across cases ● Justify conclusion steps and strategies in simple patterns ● Identify and respond to others' arguments
- **WIDA ELD STANDARD 1 Social and Instructional Language**
- **ELD-SI.K-3.Explain-** Share initial thinking with others
- **ELD-SI.K-3.Argue-** Ask questions about others' opinions ● Support own opinions with reasons ● Clarify and elaborate ideas based on feedback ● Defend change in one's own thinking ● Revise one's own opinions based on new information

Evidence of Student Learning

Performance Tasks/Use of Technology: Use online websites to practice and master mathematical facts and fluency to enhance and extend learning.

[Shape Math](#)

Other Assessments

Formative

- Teacher Observation
- Performance Assessments
- Exit Slips
- Anecdotal Records
- Oral Assessments/Conferencing
- Portfolio/Math Journals
- Daily Classwork
- Pre-assessments

Summative

- Unit Review Assessments
- Unit Associated Tests & Quizzes
- Performance Tasks

	Benchmark - District Approved Assessments Alternative - Untimed Fact Practice Assessment - Reteach Activities and Worksheets - Project Based Assessments with Scoring Rubric
Knowledge and Skills	
Content	Skills
Essential Questions: - How can you identify and know that shapes in different categories (e.g., rhombuses, rectangles, and others) may share attributes (e.g., having four sides), and that the shared attributes can define a larger category (e.g., quadrilaterals)? - How can you recognize rhombuses, rectangles, and squares as examples of quadrilaterals, and draw examples of quadrilaterals that do not belong to any of these subcategories? - How can polygons be described and classified by their sides and angles? - How can polygons be put together or taken apart to make other polygons? Enduring Understandings <i>Students will know: "I can..."</i> - Identify and know that shapes are in different categories and can share a larger category. - Recognize examples of quadrilaterals and show that one does not belong to that category. - Show how to put together and take apart polygons to	Students will be able to: - Classify shapes based upon attributes. - Calculate perimeter as an attribute of plane figures - Calculate area measures. - Describe angles and polygons. - Reason with shapes and their attributes - Geometric measurement: recognize perimeter as an attribute of plane figures and distinguish between linear and area measures - Polygons can be put together or taken apart to make other polygons. - Polygons can be described and classified by their sides and angles.

make other polygons.	
Instructional Plan	
Suggested Activities	Resources
• Activities with creation and mapping of shapes and their attributes • Sorting shapes by their characteristics • Manipulatives and collections of materials • Geoboard tasks involving creation of lines and shapes • Shape “Hunt” • Brainpop.com - Geometry and Measurement • Additional Resources by Standard • Class Dojo	• District approved text. • District approved online supplemental resources; IXL, i-Ready, Khan Academy. Reflex Math, XtraMath
Suggested Options for Differentiation	
Multi-Language Learners: • Differentiate instruction and classroom assessment as guided by the WIDA English Language Development Standards Framework, 2020 Edition. • Use instructional strategies that scaffold learning for MLs and use “Can Do Descriptors” Can Do Descriptors KE Y USES EDITION Grades 2-3 • Follow the Individualized Educational Plans (IEP) for ML Special Education (SE) students. • Encourage the ML student to use oral language. Discussions, especially pair-work, allow students to expand language usage in listening and speaking. • Allow MLs to clarify ideas, make sense of their previous statements and elaborate on their views with specific explanations. • Use wait time for MLs to express their ideas in class. • Graphic organizers, color-coded anchor charts, word walls with visual imagery, and breakdown techniques for decoding dense mathematical word problems • Structured talk protocols (Think-Pair-Share, Numbered Talks) and word banks • Simplify written and verbal instructions	

- Provide written directions with models and diagrams when possible
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- STEM Projects from Envision Mathematics
- Pick-A-Project from Envision Mathematics

Varied Levels of Text:

- The Greedy Triangle by Marilyn Burns
- Grandfather Tang's Story by Ann Tompert
- Seeing Symmetry by Loreen Leedy
- If You Were a Polygon by Marcie Aboff

Teacher Notes: