MOUNT HOLLY TOWNSHIP SCHOOL DISTRICT
THIRD GRADE MATHEMATICS CURRICULUM

2016 Mathematics Standards with companion June 2020 NJSLS
Board Approval: September 28, 2022

District Administration

Mr. Robert Mungo	Superintendent
Mrs. Amie Dougherty	Director of Curriculum and Instruction
Mrs. Tifanie Pierce	Director of Special Services
Mrs. Carolyn McDonald	Director of Equity and Student Services
Mr. Daniel Finn	Principal 5-8
Mr. Thomas Braddock	Principal 2-4
Mrs. Nicole Peoples	Principal PreK-2
Mrs. Kinny Nahal	Assist Principal 5-8
Mrs. Evon DiGangi	School Business Administrator

Mount Holly Township Board of Education

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Mrs. Janene Ciotti	Board Member
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Board Approved: September 28, 2022

New Jersey Mathematics Standards:
2016 New Jersey Student Learning Standards - Mathematics

New Jersey Computer Science and Design Thinking Standards
2020 New Jersery Student Learning Standards: Computer Science and Design Thinking

New Jersey Career Readiness, Life Literacies, and Key Skills Standards
2020 New Jersey Student Learning Standards: Career Readiness, Life Literacies & Key Skills

Grade Three Pacing Guide

Mathematics Curriculum	**Grade 3**

Interdisciplinary Connections: The Mathematics Program, My Math/Glencoe Math, links mathematics instruction across multiple disciplines. These interdisciplinary standards are incorporated into each grade level, providing purposeful application and meaningful learning.

Math Discipline	*Connection to other Disciplines*
Domain 1: Numbers and Operations in Base Ten	NJSLSA.R3. Analyze how and why individuals, events, and ideas develop and interact over the course of a text. NJSLSA.R7. Integrate and evaluate content presented in diverse media and formats, including visually and quantitatively, as well as in words. NJSLSA.W1. Write arguments to support claims in an analysis of substantive topics or texts, using valid reasoning and relevant and sufficient evidence. NJSLSA.SL1. Prepare for and participate effectively in a range of conversations and collaborations with diverse partners, building on others' ideas and expressing their own clearly and persuasively. NJSLSA.SL2. Integrate and evaluate information presented in diverse media and formats, including visually, quantitatively, and orally. NJSLSA.SL5. Make strategic use of digital media and visual displays of data to express information and enhance understanding of presentations.
Domain 2: Operational and Algebraic Thinking	NJSLSA.R3. Analyze how and why individuals, events, and ideas develop and interact over the course of a text. NJSLSA.R7. Integrate and evaluate content presented in diverse media and formats, including visually and quantitatively, as well as in words. NJSLSA.W1. Write arguments to support claims in an analysis of substantive topics or texts, using valid reasoning and relevant and sufficient evidence. NJSLSA.SL1. Prepare for and participate effectively in a range of conversations and collaborations with diverse partners, building on others' ideas and expressing their own clearly and persuasively. NJSLSA.SL2. Integrate and evaluate information presented in diverse media and formats, including visually, quantitatively, and orally. NJSLSA.SL5. Make strategic use of digital media and visual displays of data to express information and enhance understanding of presentations.

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Domain 3: Fractions	NJSLSA.R3. Analyze how and why individuals, events, and ideas develop and interact over the course of a text. NJSLSA.R7. Integrate and evaluate content presented in diverse media and formats, including visually and quantitatively, as well as in words. NJSLSA.W1. Write arguments to support claims in an analysis of substantive topics or texts, using valid reasoning and relevant and sufficient evidence. NJSLSA.SL1. Prepare for and participate effectively in a range of conversations and collaborations with diverse partners, building on others' ideas and expressing their own clearly and persuasively. NJSLSA.SL2. Integrate and evaluate information presented in diverse media and formats, including visually, quantitatively, and orally. NJSLSA.SL5. Make strategic use of digital media and visual displays of data to express information and enhance understanding of presentations. 3-5-ETS1-2. Generate and compare multiple possible solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem.
Domain 4: Measurement and Data	NJSLSA.R3. Analyze how and why individuals, events, and ideas develop and interact over the course of a text. NJSLSA.R7. Integrate and evaluate content presented in diverse media and formats, including visually and quantitatively, as well as in words. NJSLSA.W1. Write arguments to support claims in an analysis of substantive topics or texts, using valid reasoning and relevant and sufficient evidence. NJSLSA.SL1. Prepare for and participate effectively in a range of conversations and collaborations with diverse partners, building on others' ideas and expressing their own clearly and persuasively. NJSLSA.SL2. Integrate and evaluate information presented in diverse media and formats, including visually, quantitatively, and orally. NJSLSA.SL5. Make strategic use of digital media and visual displays of data to express information and enhance understanding of presentations. 3-LS3-1. Analyze and interpret data to provide evidence that plants and animals have traits inherited from parents and that variation of these traits exists in a group of similar organisms. 3-LS4-1. Analyze and interpret data from fossils to provide evidence of the organisms and the environments in which they lived long ago.

	3-ESS2-1. Represent data in tables and graphical displays to describe typical weather conditions expected during a particular season.
Domain 5: Geometry	NJSLSA.R3. Analyze how and why individuals, events, and ideas develop and interact over the course of a text. NJSLSA.R7. Integrate and evaluate content presented in diverse media and formats, including visually and quantitatively, as well as in words. NJSLSA.W1. Write arguments to support claims in an analysis of substantive topics or texts, using valid reasoning and relevant and sufficient evidence. NJSLSA.SL1. Prepare for and participate effectively in a range of conversations and collaborations with diverse partners, building on others' ideas and expressing their own clearly and persuasively. NJSLSA.SL2. Integrate and evaluate information presented in diverse media and formats, including visually, quantitatively, and orally. NJSLSA.SL5. Make strategic use of digital media and visual displays of data to express information and enhance understanding of presentations.

Computer Science and Design Thinking	
Core Ideas	**Performance Expectations**
Data can be organized, displayed, and presented to highlight relationships.	8.1.5.DA.1: Collect, organize, and display data in order to highlight relationships or support a claim.
Individuals can select, organize, and transform data into different visual representations and communicate insights gained from the data.	• 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

Different algorithms can achieve the same result. Some algorithms are more appropriate for a specific use than others.	8.1.5.AP.1: Compare and refine multiple algorithms for the same task and determine which is the most appropriate.
Career Readiness, Life Literacies, and Key Skills	
Financial Institutions/Psychology	
Core Ideas	**Performance Expectations**
People can choose to save money in many places such as home in a piggy bank, bank, or credit union.	9.1.5.FI.1: Identify various types of financial institutions and the services they offer including banks, credit unions, and credit card companies.
An individual's financial traits and habits affect his/her finances.	9.1.5.FP.1: Illustrate the impact of financial traits on financial decisions. 9.1.5.FP.2: Identify the elements of being a good steward of money
Spending choices and their intended and unintended consequences impact financial outcomes and personal wellbeing.	9.1.5.FP.3: Analyze how spending choices and decision-making can result in positive or negative consequences. 9.1.5.FP.4: Explain the role of spending money and how it affects wellbeing and happiness (e.g., "happy money," experiences over things, donating to causes, anticipation, etc.)
Planning and Budgeting	
There are specific steps associated with creating a budget.	9.1.5.PB.1: Develop a personal budget and explain how it reflects spending, saving, and charitable contributions.
Saving money can impact an individual's ability to address emergencies and accomplish their short-and long-term goals.	9.1.5.PB.2: Describe choices consumers have with money (e.g., save, spend, donate).

Career Awareness, Exploration, Preparation, and Training	
An individual's passions, aptitude and skills can affect his/her employment and earning potential	9.2.5.CAP.1: Evaluate personal likes and dislikes and identify careers that might be suited to personal likes. 9.2.5.CAP.2: Identify how you might like to earn an income. 9.2.5.CAP.3: Identify qualifications needed to pursue traditional and non-traditional careers and occupations. 9.2.5.CAP.4: Explain the reasons why some jobs and careers require specific training, skills, and certification (e.g., life guards, child care, medicine, education) and examples of these requirements
There are a variety of factors to consider before starting a business	9.2.5.CAP.6: Compare the characteristics of a successful entrepreneur with the traits of successful employees. • 9.2.5.CAP.7: Identify factors to consider before starting a business.
Diversity, Equity, and Inclusion:	
Culturally Responsive Practices in Mathematics Education: **8 Powerful Ways to Promote Equity in the Classroom** **Who Do You Call On? Rooting Out Implicit Bias'** **Why Representation Matters**	
Financial Habits and Traits: Students in Grades 3-4 will evaluate how advertising and marketing techniques influence perceptions and buying decisions. They will analyze what groups are stereotyped in advertisements.	Resources: Learning for Justice: Evaluation Advertising and Marketing Techniques for Racial Bias and Stereotypes The Power of Words Agree/Disagree Statements

	We Can Do It!

Domain1: Number and Operations in Base Ten	
Chapter 1: Place Value (11 Days) Chapter 2: Addition (14 Days) Chapter 3: Subtraction (10 Days)	
NJ 2016 Student Learning Standards: Mathematics Grade 3 **Number & Operations in Base Ten** Use place value understanding and properties of operations to perform multi-digit arithmetic.	**NJDOE Mathematics Curricular Framework** Guide Document and Supports Mathematics Curricular Framework

3.NBT.1 Use place value understanding to round whole numbers to the nearest 10 or 100. 3.NBT.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.3 Multiply one-digit whole numbers by multiples of 10 in the range 10-90 (e.g., 9 x 80, 5 x 60) using strategies based on place value and properties of operations. **Operations and Algebraic Thinking** 3.OA.1 Interpret products of whole numbers, e.g., Interpret 5 x 7 as the total number of objects in 5 groups of 7 objects each. 3.OA.2 Interpret whole-number quotients of whole numbers, e.g., interpret 56 ÷ 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. 3.OA.9. Identify arithmetic patterns (including patterns in the addition table or multiplication table), and explain them using properties of operations.	**Mathematical Practices** **MP. The Standards for Mathematical Practice describe varieties of expertise that mathematics educators at all levels should seek to develop in their students.** **highlight appropriate indicators for unit/domain** MP.1. Make sense of problems and persevere in solving them. MP.2. Reason abstractly and quantitatively. MP.3. Construct viable arguments and critique the reasoning of others. MP.4. Model with mathematics. MP.5. Use appropriate tools strategically. MP.6. Attend to precision. MP.7. Look for and make use of structure. MP.8. Look for and express regularity in repeated reasoning.
Career Readiness, Life Literacies, and Key Skills Integration **NJSLS - CRLLKS 2020** **highlight appropriate indicators for unit/domain** CRLLKS1. Act as a responsible and contributing community members and employee. CRLLKS2. Attend to financial well-being. CRLLKS3. Consider the environmental, social and economic impacts of decisions. CRLLKS4. Demonstrate creativity and innovation.	**21st Century Student Outcomes** http://www.battelleforkids.org/networks/p21 **Learning and Innovation Skills** **highlight appropriate indicators for unit/domain** Think Creatively Work Creatively with Others Implement Innovations Reason effectively Use Systems Thinking Make Judgments and Decisions Solve Problems

CRLLKS5. Utilize critical thinking to make sense of problems and persevere in solving them CRLLKS6. Model integrity, ethical leadership and effective management. CRLLKS7. Plan education and career paths aligned to personal goals. CRLLKS8. Use technology to enhance productivity increase collaboration and communicate effectively.persevere in solving them. CRLLKS9. Work productively in teams while using cultural/global competence.	Communicate Clearly Collaborate with Others **Life and Career Skills** **highlight appropriate indicators for unit/domain** Adapt to Change Be Flexible Manage Goals and Time Work Independently Be Self-directed Learners Interact Effectively with Others Work Effectively in Diverse Teams
Enduring Understandings ● The position of a digit in a number affects the value of the number. ● Numbers can be expressed in a variety of ways. ● Operations with numbers can be performed by standard or algorithms. ● Numbers enable us to use place value of digits to comprehend quantities, sequences and estimation.	**Essential Questions** ● How can numbers be expressed, ordered, and compared? ● How can place value help me add larger numbers? ● How are the operations of subtraction and addition related?
Content Knowledge ● Values of each digit in a number. ● Comparing and ordering numbers. ● Reading and writing whole numbers in various notations. ● Addition of whole numbers using the standard algorithm. ● Subtraction of whole numbers using the standard	**Skills** ● Represent numbers to 10,000 in different equivalent forms. ● Count within 10,000. ● Count by hundreds and thousands. ● Compare and order whole numbers to 10,000. ● Use place-value models to read, write, and represent numbers to 10,000.

algorithm. ● Addition of decimals using the standard algorithm. ● Subtraction of decimals using the standard algorithm. ● Rounding of whole numbers to specific place values.	● Add and subtract money. ● Solve real-world problems involving addition and subtraction of money. ● Use the dollar sign and decimal point in money amounts. ● Model regrouping in addition and subtraction using place value strategies. ● Add and subtract whole numbers to 10,000. ● Solve addition and subtraction problems with greater numbers by using a bar model. ● Use mental math strategies to add and subtract. ● Use mental computation and estimation to assess the reasonableness of answers. ● Use front end estimation and rounding to estimate sums and differences. ● Identify odd and even numbers.

Primary and Supplementary Resources

* My Math Grade 3 Student book
* My Math Grade 3 Volume 1 Teacher's Edition

My Math Resources

EdConnect Login

NJSLA Mathematics Operational Evidence Statements
https://docs.google.com/spreadsheets/d/18M5r1jk4P729fTpAlWAzrw1gE6tken233I-Yk0U712M/edit#gid=554025491

NJSLA Released Items
https://nj.digitalitemlibrary.com/home

https://resources.newmeridiancorp.org/

Illustrative Mathematics

iReady
i-Ready makes differentiated instruction a practical reality for teachers and students. *i-Ready*:

- ➢ integrates powerful assessments and rich insights with effective and engaging instruction in reading and mathematics to address students' individual needs.
- ➢ empowers teachers every day to make more informed instructional decisions.
- ➢ motivates students with access to their own personalized path to growth.

XtraMath

- ➢ This program helps students practice their math facts for addition, subtraction, multiplication, and addition.
- ➢ Can individualize the fluency skills for each student.
- ➢ Can run reports to determine progress.

Scholastic Study Jams

- ➢ Fun videos which explain common mathematics concepts.
- ➢ Questions at the end of the video reinforce the concepts.

Khan Academy

- ➢ a set of online tools that help educate students. The organization produces short lessons in the form of YouTube videos.
- ➢ Its website also includes supplementary practice exercises and materials for educators.

3rd grade Flip Book:
https://drive.google.com/file/d/1Ua8txR31bkZM2j2JxFRm18JiUluKttY1/view?usp=sharing

101 Math Discourse Questions:
http://www.casamples.com/downloads/100MathDiscourseQuestions_Printable.pdf

Asking Effective Questions
http://www.edu.gov.on.ca/eng/literacynumeracy/inspire/research/CBS_AskingEffectiveQuestions.pdf

Fluency Support for Grades 3-5

https://jenniferfindley.com/free-math-intervention-activities-grades-3-5/

Achieve the Core Coherence Map
https://achievethecore.org/coherence-map/3

Chapter 1: Place Value

Lesson 1: Place Value Through Thousands
- Vocabulary: digit, standard form, expanded form, place value, word form

Lesson 2: Compare Numbers
- Vocabulary: is equal to, is greater to, is less than

Lesson 3: Order Numbers
- Vocabulary: digit, place value

Lesson 4: Round to the Nearest Ten
- Vocabulary: round

Lesson 5: Round to the Nearest Hundred
- Vocabulary: hundreds, ones, place value, tens

Lesson 6: Problem-Solving Investigation: Use the Four-Step Plan

Chapter 2: Addition

Lesson 1: Addition Properties
- Vocabulary: parentheses, Associative Property of Addition, Commutative Property of Addition, Identity Property of Addition, mental math

Lesson 2: Patterns in the Addition Table
- Vocabulary: pattern

Lesson 3: Addition Patterns
- Vocabulary: place value

Lesson 4: Add Mentally
- Vocabulary: hundreds, ones, tens

Lesson 5: Estimate Sums
- Vocabulary: estimate

Lesson 6: Hands On: Use Models to Add
- Vocabulary: reasonable, regroup

Lesson 7: Add Three-Digit Numbers
- Vocabulary: reasonable, regroup, unknown

Lesson 8: Add Four-Digit Numbers
- Vocabulary: bar diagram

Lesson 9: Problem Solving Investigation: Reasonable Answers

Chapter 3: Subtraction

Lesson 1: Subtract Mentally
- Vocabulary: difference, subtract

Lesson 2: Estimate Differences
- Vocabulary: estimate

Lesson 3: Problem-Solving Investigation: Estimate or Exact Answer

Lesson 4: Hands On: Subtract with Regrouping
- Vocabulary: inverse operations, regroup

Lesson 5: Subtract Three-Digit Numbers
- Vocabulary: round

Lesson 6: Subtract Four-Digit Numbers
- Vocabulary: digit, hundreds, tens, thousands

Lesson 7: Subtract Across Zeros
- Vocabulary: regroup

Assessments: Ch. 1-3

Chapter 1:

1. Diagnostic Assessment: Am I Ready? completed in SE p. 3 or printed from *Assessment Masters* p 10. A ready-made diagnostic test is available online.
2. Check My Progress SE p. 27 (after Lesson 3) or *Assessment Masters* pg 12. A bank of questions is available in the Assessment tab in ConnectED.
3. Ch. 1 Summative Assessment completed in ConnectED or printed from *Assessment Masters* pg 14.
4. Ch. 1 Project – Book Count – Students explore their school library's book collection by comparing the number of books in several different subject categories.

Chapter 2:

1. Diagnostic Assessment: Am I Ready? completed in SE p. 53 or printed from *Assessment Masters* p 35. A ready-made diagnostic test is available online.

2. Check My Progress SE p 85 (after Lesson 4) or *Assessment Masters* pg 37. A bank of questions is available in the Assessment tab in ConnectED.
3. Ch. 2 Summative Assessment completed in ConnectED or printed from *Assessment Masters* pg 40.
4. Ch. 2 Project – Bake Sale – Students plan a bake sale, deciding which items they would like to bake and sell, how many of each item to make, and how much to charge for each item.

Chapter 3:

1. Diagnostic Assessment: Am I Ready? completed in SE p. 127 or printed from *Assessment Masters* p 61. A ready-made diagnostic test is available online.
2. Check My Progress SE p. 151 (after Lesson 3) or *Assessment Masters* pg 63. A bank of questions is available in the Assessment tab in ConnectED.
3. Ch. 3 Summative Assessment completed in ConnectED or printed from *Assessment Masters* pg 65.
4. Ch. 3 Project – Party Favor Bags – Students determine the number of party favor bags to build and the number of party favors to place in each bag. Then students are asked to calculate the number of bags and favors needed if 3 of the party guests cannot attend.

Differentiation in the Mathematics Classroom

Special Education Students

- ➢ Provide number charts/ number lines (or calculators) to students who struggle with fluency.
- ➢ Represent numbers in place value charts.
- ➢ Give students copies of place value charts to organize their thoughts while completing their work.
- ➢ Assign fewer complex problems and have students illustrate or explain the reasoning they use.
- ➢ Emphasize the role of diagramming in interpreting and solving problems in mathematics.
- ➢ Provide students with graph paper to organize and reduce errors being made due to handwriting.
- ➢ Use tasks that provide multiple entry points and provide scaffolds that support student participation.
- ➢ Have a vocabulary wall.

English Language Learners

- ➢ Create Vocabulary Banks
- ➢ Use manipulatives
- ➢ Modify teacher talk and practice wait time
- ➢ Elicit nonverbal responses, like a thumbs up or down
- ➢ Use sentence frames
- ➢ Comprehensible input
- ➢ Contextualized instruction
- ➢ A low-anxiety learning environment
- ➢ Meaningful engagement in learning activities

<table>
<tr><td>➢ Provide reduced amount of homework for struggling learners. Give them a few relevant math problems rather than an entire worksheet.
➢ Conference with the students often to learn about how they think about math.</td><td></td></tr>
<tr><td>At-Risk Students
➢ Reduce the number of problems given
➢ Provide calculators
➢ Give extra time</td><td>504 Students
➢ Provide a checklist of the steps needed to complete the problem
➢ Provide place value charts
➢ Provide lots of white-space to make it less busy
➢ If still struggling, reteach and retest</td></tr>
<tr><td colspan="2">Gifted and Talented Students
➢ Use more-challenging numbers
➢ Add additional steps by combining standards
➢ Introduce the next-grade-level standard
➢ Know Their Interests – Start by having students complete an interest inventory like this one Student Interest Survey
➢ Keep Them Active - Gifted students often need to have the ability to move when learning
➢ Offer Flexible Seating - Try to offer different seating options for students: beanbag chairs, carpet squares, pillows, director chairs … the list can go on and on.
➢ Share Current Events - Current events are important to incorporate into gifted programming. We want these students to be thinking about how they can use their talents to solve real-world problems.
➢ Practice Like Professionals - Allow students to practice like the professionals. Use the same processes that professionals use.
➢ Locate Authentic Audiences - The work students create should have a real audience and be appreciated by those who authentically would benefit from its completion. Younger students are a great first authentic audience.</td></tr>
</table>

Domain 2: Operations and Algebraic Thinking	
Chapter 4 - Understand Multiplication (9 days) Chapter 5 - Understand Division (9-10 days) Chapter 6 - Multiplication and Division Patterns (13-14 days) Chapter 7 - Multiplication and Division (12-13 days) Chapter 8 - Apply Multiplication and Division (13-14 days) Chapter 9 - Properties and Equations (13-14 days)	
NJ 2016 Student Learning Standards: Mathematics Grade 3 **Operations & Algebraic Thinking 3. OA** 3.OA.1 - Interpret products of whole numbers, e.g., interpret 5 x 7 as the total number of objects in 5 groups of 7 objects each. 3.OA.2 - Interpret whole-number quotients of whole numbers, e.g., interpret 56 ÷ 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. 3.OA.3 - Use multiplication and division within 100 to solve word problems in situations involving equal groups, arrays, and	**NJDOE Mathematics Curricular Framework** Guide Document and Supports Mathematics Curricular Framework **Mathematical Practices** **MP. The Standards for Mathematical Practice describe varieties of expertise that mathematics educators at all levels should seek to develop in their students.** **highlight appropriate indicators for unit/domain** MP.1. Make sense of problems and persevere in solving them. MP.2. Reason abstractly and quantitatively.

measurement quantities, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem. 3.OA.4 - Determine the unknown whole number in a multiplication or division equation relating three whole numbers. 3.OA.5 – Apply properties of operations as strategies to multiply and divide. 3.OA.6 – Understand division as an unknown-factor problem. 3.OA.7 – Fluently multiply and divide within 100, using strategies such as the relationship between multiplication and division or properties of operations. 3.OA.8 – Solve two-step word problems 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. 3.OA.9 – Identify arithmetic patterns (including patterns in the addition table or multiplication table), and explain them using properties of operations. **Number and Operations in Base Ten** A. Use place value understanding and properties of operations to perform multi-digit arithmetic. 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.	MP.3. Construct viable arguments and critique the reasoning of others. MP.4. Model with mathematics. MP.5. Use appropriate tools strategically. MP.6. Attend to precision. MP.7. Look for and make use of structure. MP.8. Look for and express regularity in repeated reasoning.

Career Readiness, Life Literacies, and Key Skills Integration **NJSLS - CRLLKS 2020** **highlight appropriate indicators for unit/domain** CRLLKS1. Act as a responsible and contributing community members and employee. CRLLKS2. Attend to financial well-being. CRLLKS3. Consider the environmental, social and economic impacts of decisions. CRLLKS4. Demonstrate creativity and innovation. CRLLKS5. Utilize critical thinking to make sense of problems and persevere in solving them CRLLKS6. Model integrity, ethical leadership and effective management. CRLLKS7. Plan education and career paths aligned to personal goals. CRLLKS8. Use technology to enhance productivity increase collaboration and communicate effectively.persevere in solving them. CRLLKS9. Work productively in teams while using cultural/global competence.	**21st Century Student Outcomes** http://www.battelleforkids.org/networks/p21 **Learning and Innovation Skills** **highlight appropriate indicators for unit/domain** Think Creatively Work Creatively with Others Implement Innovations Reason effectively Use Systems Thinking Make Judgments and Decisions Solve Problems Communicate Clearly Collaborate with Others **Life and Career Skills** **highlight appropriate indicators for unit/domain** Adapt to Change Be Flexible Manage Goals and Time Work Independently Be Self-directed Learners Interact Effectively with Others Work Effectively in Diverse Teams
Enduring Understandings ● Multiplication is repeated addition, related to division, and can be used to solve problems.	**Essential Questions** ● What does multiplication mean? ● What does division mean?

● The standard multiplication algorithm breaks the calculation into simpler calculations using place value starting with the ones, then the tens, and so on. ● Multiplication and division are inverse operations. ● The standard long division algorithm breaks the process into smaller calculations based on place value. ● Use standard division algorithm to solve problems.	● What is the importance of patterns in learning multiplication and division? ● What strategies can be used to learn multiplication and division facts? ● How can multiplication and division facts with smaller numbers be applied to larger numbers? ● How are properties and equations used to group numbers?
Content Knowledge ● The Commutative, Associative, and Zero Properties of Multiplication can be used to solve problems. ● Place-value patterns and the properties of multiplication can be used to mentally compute products of whole numbers. ● Rounding or compatible numbers can be used to estimate products of whole numbers. ● The traditional algorithm can be used to multiply multi-digit numbers by a one-digit number, or two-digit numbers. ● Using strategies based on place value, properties of operations, and the relationship between multiplication and division. ● Rounding and compatible numbers can be used to find quotients mentally. ● Long division can be used to divide with one digit divisors and two digit divisors. ● There are different keywords to indicate when to multiply or divide. ● The meaning of remainders need to be interpreted when answering division word problems.	**Skills** ● Multiply and divide. ● Represent multiplication in different ways. ● Model division in different ways. ● Multiply ones, tens, and hundreds with and without regrouping. ● Apply properties of addition and multiplication to multiply. ● Divide tens and ones with and without regrouping, no remainder. ● Use bar models to represent multiplication and division situations. ● Solve one and two-step multiplication and division problems. ● Use mental math strategies to multiply and divide. ● Create and describe multiplication and division patterns. ● Skip count by 6s, 7s, 8s, and 9s. ● Analyze number and counting patterns. ● Understand that multiplication and division are related. ● Create and explain multiplication and division patterns. ● Understand the relationships between the numbers in

	multiplication-division fact families. ● Write multiplication and division number sentences. ● Determine the missing parts in number sentences.

Primary and Supplementary Resources

* My Math Grade 3 Student book
* My Math Grade 3 Volume 1 Teacher's Edition

My Math Resources

EdConnect Login

NJSLA Mathematics Operational Evidence Statements
https://docs.google.com/spreadsheets/d/18M5r1jk4P729fTpAlWAzrw1gE6tken233I-Yk0U712M/edit#gid=554025491

NJSLA Released Items
https://nj.digitalitemlibrary.com/home
https://resources.newmeridiancorp.org/

Illustrative Mathematics

iReady
i-Ready makes differentiated instruction a practical reality for teachers and students. *i-Ready*:
- ➢ integrates powerful assessments and rich insights with effective and engaging instruction in reading and mathematics to address students' individual needs.
- ➢ empowers teachers every day to make more informed instructional decisions.
- ➢ motivates students with access to their own personalized path to growth.

XtraMath
- ➢ This program helps students practice their math facts for addition, subtraction, multiplication, and addition.
- ➢ Can individualize the fluency skills for each student.

➢ Can run reports to determine progress.

Scholastic Study Jams

➢ Fun videos which explain common mathematics concepts.
➢ Questions at the end of the video reinforce the concepts.

Khan Academy

➢ a set of online tools that help educate students. The organization produces short lessons in the form of YouTube videos.
➢ Its website also includes supplementary practice exercises and materials for educators.

3rd grade Flip Book:
https://drive.google.com/file/d/1Ua8txR31bkZM2j2JxFRm18JiUluKttY1/view?usp=sharing

101 Math Discourse Questions:
http://www.casamples.com/downloads/100MathDiscourseQuestions_Printable.pdf

Asking Effective Questions
http://www.edu.gov.on.ca/eng/literacynumeracy/inspire/research/CBS_AskingEffectiveQuestions.pdf

Fluency Support for Grades 3-5
https://jenniferfindley.com/free-math-intervention-activities-grades-3-5/

Achieve the Core Coherence Map
https://achievethecore.org/coherence-map/3

Chapter 4: Understand Multiplication

Lesson 1: Model Multiplication
- Vocabulary: equal groups, multiplication, multiplication sentence, multiply

Lesson 2: Multiplication as Repeated Addition
- Vocabulary: factors, multiply, product

Lesson 3: Multiply with Arrays
- Vocabulary: Commutative Property of Multiplication, array

Lesson 4: Arrays and Multiplication

- Vocabulary: Commutative Property of Multiplication, array

Lesson 5: Problem-Solving Investigation

Lesson 6: Use Multiplication to Find Combinations

- Vocabulary: combination, tree diagram

Chapter 5: Understand Division

Lesson 1: Model Division

- Vocabulary: divide, division, division sentence, partition

Lesson 2: Division as Equal Sharing

- Vocabulary: divide, division sentence

Lesson 3: Relate Division and Subtraction

- Vocabulary: repeated subtraction

Lesson 4: Relate Division and Multiplication

- Vocabulary: dividend, divisor, quotient

Lesson 5: Inverse Operations

- Vocabulary: dividend, divisor, inverse operations, quotient, fact family, related facts

Lesson 6: Problem-Solving Investigation

Chapter 6: Multiplication and Division Patterns

Lesson 1: Patterns in the Multiplication Table

- Vocabulary: columns, rows

Lesson 2: Multiply by 2

- Vocabulary: multiply

Lesson 3: Divide by 2

- Vocabulary: partition

Lesson 4: Multiply by 5

- Vocabulary: skip count

Lesson 5: Divide by 5

- Vocabulary: inverse operations

Lesson 6: Problem-Solving Investigation

Lesson 7: Multiply by 10

- Vocabulary: dime

Lesson 8: Multiples of 10

- Vocabulary: multiple

Lesson 9: Divide by 10
- Vocabulary: unknown

Chapter 7: Multiplication and Division

Lesson 1: Multiply by 3
- Vocabulary: Commutative Property

Lesson 2: Divide by 3
- Vocabulary: quotient

Lesson 3: Double a Known Fact
- Vocabulary: decompose, known fact

Lesson 4: Multiply by 4
- Vocabulary: decompose, known fact

Lesson 5: Divide by 4
- Vocabulary: equal groups

Lesson 6: Problem-Solving Investigation

Lesson 7: Multiply by 0 and 1
- Vocabulary: Zero Property of Multiplication, Identity Property of Multiplication

Lesson 8: Divide with 0 and 1
- Vocabulary: dividend, divisor

Chapter 8: Apply Multiplication and Division

Lesson 1: Multiply by 6
- Vocabulary: decompose

Lesson 2: Multiply by 7
- Vocabulary: Commutative Property

Lesson 3: Divide by 6 and 7
- Vocabulary: repeated subtraction

Lesson 4: Multiply by 8
- Vocabulary: known fact

Lesson 5: Multiply by 9
- Vocabulary: pattern

Lesson 6: Divide by 8 and 9
- Vocabulary: inverse operations

Lesson 7: Problem-Solving Investigation

Lesson 8: Multiply by 11 and 12
- Vocabulary: decompose

Lesson 9: Divide by 11 and 12
- Vocabulary: dividend, divisor, quotient

Chapter 9: Properties and Equations

Lesson 1:Take Apart to Multiply

Lesson 2: The Distributive Property
- Vocabulary: Distributive Property

Lesson 3: Multiply Three Factors

Lesson 4: The Associative Property
- Vocabulary: Associative Property of Multiplication

Lesson 5: Write Expressions
- Vocabulary: expression, operations

Lesson 6: Evaluate Expressions
- Vocabulary: evaluate, variable

Lesson 7: Write Equations
- Vocabulary: equation

Lesson 8: Solve Two-Step Word Problems
- Vocabulary: estimate

Lesson 9: Problem-Solving Investigation

Assessments: Ch. 1-3

Chapter 4:

1. Diagnostic Assessment: Am I Ready? completed in SE p. 185 or printed from *Assessment Masters* p 86. A ready-made diagnostic test is available online.
2. Check My Progress SE p. 217 (after Lesson 4) or *Assessment Masters* pg 86. A bank of questions is available in the Assessment tab in ConnectED.
3. Ch. 4 Summative Assessment completed in ConnectED or printed from *Assessment Masters* pg 90.
4. Ch. 4 Project – The Fruit Store – Students create a fruit store game and use multiplication and addition to charge "customers" for their purchases.

Chapter 5:

1. Diagnostic Assessment: Am I Ready? completed in SE p. 237 or printed from *Assessment Masters* p 111. A ready-made diagnostic test is available online.

Board Approved: September 28, 2022

2. Check My Progress SE p. 263 (after Lesson 4) or *Assessment Masters* pg 113. A bank of questions is available in the Assessment tab in ConnectED.
3. Ch. 5 Summative Assessment completed in ConnectED or printed from *Assessment Masters* pg 115.
4. Ch. 5 Project – Division Classroom Bulletin Board – Students will create a division bulletin board for the classroom that will showcase all the division concepts they have learned by the end of the chapter.

Chapter 6:

1. Diagnostic Assessment: Am I Ready? completed in SE p. 289 or printed from *Assessment Masters* p 136. A ready-made diagnostic test is available online.
2. Check My Progress SE p. 325 (after Lesson 5) or *Assessment Masters* pg 138. A bank of questions is available in the Assessment tab in ConnectED.
3. Ch. 6 Summative Assessment completed in ConnectED or printed from *Assessment Masters* pg 140.
4. Ch. 6 Project – Clothing Drive – Students will plan a clothing drive to support local charities.

Chapter 7:

1. Diagnostic Assessment: Am I Ready? completed in SE p. 359 or printed from *Assessment Masters* p 161. A ready-made diagnostic test is available online.
2. Check My Progress SE p. 395 (after Lesson 5) or *Assessment Masters* pg 163. A bank of questions is available in the Assessment tab in ConnectED.
3. Ch. 7 Summative Assessment completed in ConnectED or printed from *Assessment Masters* pg 165.
4. Ch. 7 Project – Plant an Array – Students pick a multiplication sentence and related division sentence and plant seeds in cups to create a corresponding array.

Chapter 8:

1. Diagnostic Assessment: Am I Ready? completed in SE p. 423 or printed from *Assessment Masters* p 186. A ready-made diagnostic test is available online.
2. Check My Progress SE p. 467 (after Lesson 6) or *Assessment Masters* pg 186. A bank of questions is available in the Assessment tab in ConnectED.
3. Ch. 8 Summative Assessment completed in ConnectED or printed from *Assessment Masters* pg 191.
4. Ch. 8 Project – Stocking the Store – Students design a store with different items of clothing and determine both the price of one item and the inventory totals for each item.

Chapter 9:

1. Diagnostic Assessment: Am I Ready? completed in SE p. 495 or printed from *Assessment Masters* p 212. A ready-made diagnostic test is available online.
2. Check My Progress SE p. 525 (after Lesson 4) or *Assessment Masters* pg 214. A bank of questions is available in the Assessment tab in ConnectED.

3. Ch. 9 Summative Assessment completed in ConnectED or printed from *Assessment Masters* pg 216.

Ch. 9 Project – Make a Game – Students create a math game based on a favorite game or format. The game must involve solving addition, subtraction, multiplication, and division equations.

Differentiation in the Mathematics Classroom

Special Education Students

- ➢ Provide number charts/ number lines (or calculators) to students who struggle with fluency.
- ➢ Represent numbers in place value charts.
- ➢ Give students copies of place value charts to organize their thoughts while completing their work.
- ➢ Assign fewer complex problems and have students illustrate or explain the reasoning they use.
- ➢ Emphasize the role of diagramming in interpreting and solving problems in mathematics.
- ➢ Provide students with graph paper to organize and reduce errors being made due to handwriting.
- ➢ Use tasks that provide multiple entry points and provide scaffolds that support student participation.
- ➢ Have a vocabulary wall.
- ➢ Provide reduced amount of homework for struggling learners. Give them a few relevant math problems rather than an entire worksheet.
- ➢ Conference with the students often to learn about how they think about math.

English Language Learners

- ➢ Create Vocabulary Banks
- ➢ Use manipulatives
- ➢ Modify teacher talk and practice wait time
- ➢ Elicit nonverbal responses, like a thumbs up or down
- ➢ Use sentence frames
- ➢ Comprehensible input
- ➢ Contextualized instruction
- ➢ A low-anxiety learning environment
- ➢ Meaningful engagement in learning activities

At-Risk Students

- ➢ Reduce the number of problems given
- ➢ Provide calculators
- ➢ Give extra time

504 Students

- ➢ Provide a checklist of the steps needed to complete the problem
- ➢ Provide place value charts
- ➢ Provide lots of white-space to make it less busy

	➢ If still struggling, reteach and retest
Gifted and Talented Students ➢ Use more-challenging numbers ➢ Add additional steps by combining standards ➢ Introduce the next-grade-level standard ➢ Know Their Interests – Start by having students complete an interest inventory like this one Student Interest Survey ➢ Keep Them Active - Gifted students often need to have the ability to move when learning ➢ Offer Flexible Seating - Try to offer different seating options for students: beanbag chairs, carpet squares, pillows, director chairs … the list can go on and on. ➢ Share Current Events - Current events are important to incorporate into gifted programming. We want these students to be thinking about how they can use their talents to solve real-world problems. ➢ Practice Like Professionals - Allow students to practice like the professionals. Use the same processes that professionals use. ➢ Locate Authentic Audiences - The work students create should have a real audience and be appreciated by those who authentically would benefit from its completion. Younger students are a great first authentic audience.	

Domain 3: Fractions	
Chapter 10: Fractions (12-13 days)	
NJ 2016 Student Learning Standards: Mathematics Grade 3 **Fractions** 3.NF.1 – Understand a fraction 1/b as the quantity formed by 1 part when a whole is partitioned into b equal parts; understand a/b as the quantity formed by a parts of size 1/b.	**NJDOE Mathematics Curricular Framework** Guide Document and Supports Mathematics Curricular Framework **Mathematical Practices**

3.NF.2 – Understand a fraction as a number on the number line; represent fractions on a number line diagram. 3.NF.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. 3.NF.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.3 – Explain equivalence of fractions in special cases, and compare fractions by reasoning about their size. 3.NF.3a – Understand two fractions as equivalent (equal) if they are the same size, or the same point on a number line. 3.NF.3b – Recognize and generate simple equivalent fractions, e.g., ½ = 2/4, 4/6, = 2/3. Explain why the fractions are equivalent, e.g., by using a visual fraction model. 3.NF.3c – Express whole numbers as fractions, and recognize fractions that are equivalent to whole numbers. 3.NF.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	**MP. The Standards for Mathematical Practice describe varieties of expertise that mathematics educators at all levels should seek to develop in their students.** **highlight appropriate indicators for unit/domain** MP.1. Make sense of problems and persevere in solving them. MP.2. Reason abstractly and quantitatively. MP.3. Construct viable arguments and critique the reasoning of others. MP.4. Model with mathematics. MP.5. Use appropriate tools strategically. MP.6. Attend to precision. MP.7. Look for and make use of structure. MP.8. Look for and express regularity in repeated reasoning.

symbols ‹, =, ›, and justify the conclusions, e.g., by using a visual fraction model. **Geometry** 3.G.2 – Partition shapes into parts with equal areas. Express the area of each part as a unit fraction of the whole	
Career Readiness, Life Literacies, and Key Skills Integration **NJSLS - CRLLKS 2020** **highlight appropriate indicators for unit/domain** CRLLKS1. Act as a responsible and contributing community members and employee. CRLLKS2. Attend to financial well-being. CRLLKS3. Consider the environmental, social and economic impacts of decisions. CRLLKS4. Demonstrate creativity and innovation. CRLLKS5. Utilize critical thinking to make sense of problems and persevere in solving them CRLLKS6. Model integrity, ethical leadership and effective management. CRLLKS7. Plan education and career paths aligned to personal goals. CRLLKS8. Use technology to enhance productivity increase collaboration and communicate effectively.persevere in solving them. CRLLKS9. Work productively in teams while using cultural/global competence.	**21st Century Student Outcomes** http://www.battelleforkids.org/networks/p21 **Learning and Innovation Skills** **highlight appropriate indicators for unit/domain** Think Creatively Work Creatively with Others Implement Innovations Reason effectively Use Systems Thinking Make Judgments and Decisions Solve Problems Communicate Clearly Collaborate with Others **Life and Career Skills** **highlight appropriate indicators for unit/domain** Adapt to Change Be Flexible Manage Goals and Time Work Independently Be Self-directed Learners Interact Effectively with Others Work Effectively in Diverse Teams

Enduring Understandings ● Numbers enable us to use the four operations to combine and separate quantities. ● In order to add/subtract fractions one must obtain common denominators. ● A fraction is in simplest form when 1 is the only common factor of the numerator and denominator. ● Equivalent fractions are found by multiplying or dividing the numerator and denominator by the same nonzero number.	**Essential Questions** ● How can fractions be used to represent numbers and their parts?
Content Knowledge ● Equivalent fractions can be found by multiplying or dividing by a whole. ● Pictures and equations can be used to represent and solve word problems. ● Models can be used to prove how to add and subtract fractions.	**Skills** ● Understand the meanings and uses of fractions including fraction of a set. ● Understand that the size of a fractional part is relative to the size of the whole. ● Compare fractions using models, number lines. ● Recognize equivalent fractions through the use of models, multiplication, division, and number lines. ● Write whole numbers as fractions, and recognize fractions that are equivalent to whole numbers. ● Add and subtract like fractions.
Primary and Supplementary Resources * My Math Grade 3 Student book * My Math Grade 3 Volume 1 Teacher's Edition My Math Resources	

EdConnect Login

NJSLA Mathematics Operational Evidence Statements
https://docs.google.com/spreadsheets/d/18M5r1jk4P729fTpAlWAzrw1gE6tken233I-Yk0U712M/edit#gid=554025491

NJSLA Released Items
https://nj.digitalitemlibrary.com/home
https://resources.newmeridiancorp.org/

Illustrative Mathematics

iReady
i-Ready makes differentiated instruction a practical reality for teachers and students. *i-Ready*:

- integrates powerful assessments and rich insights with effective and engaging instruction in reading and mathematics to address students' individual needs.
- empowers teachers every day to make more informed instructional decisions.
- motivates students with access to their own personalized path to growth.

XtraMath

- This program helps students practice their math facts for addition, subtraction, multiplication, and addition.
- Can individualize the fluency skills for each student.
- Can run reports to determine progress.

Scholastic Study Jams

- Fun videos which explain common mathematics concepts.
- Questions at the end of the video reinforce the concepts.

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3rd grade Flip Book:
https://drive.google.com/file/d/1Ua8txR31bkZM2j2JxFRm18JiUluKttY1/view?usp=sharing

101 Math Discourse Questions:
http://www.casamples.com/downloads/100MathDiscourseQuestions_Printable.pdf

Asking Effective Questions
http://www.edu.gov.on.ca/eng/literacynumeracy/inspire/research/CBS_AskingEffectiveQuestions.pdf

Fluency Support for Grades 3-5
https://jenniferfindley.com/free-math-intervention-activities-grades-3-5/

Achieve the Core Coherence Map
https://achievethecore.org/coherence-map/3

Chapter 10: Fractions

Lesson 1: Unit Fractions
- Vocabulary: fraction, unit fraction

Lesson 2: Part of a Whole
- Vocabulary: denominator, numerator

Lesson 3: Part of a Set
- Vocabulary: fraction

Lesson 4: Problem-Solving Investigation
Lesson 5: Fractions on a Number Line
Lesson 6: Equivalent Fractions
- Vocabulary: equivalent fractions

Lesson 7: Fractions as One Whole
- Vocabulary: denominator, equivalent fractions, numerator

Lesson 8: Compare Fractions
- Vocabulary: is equal to (=), is greater than (›), is less than (‹)

Assessments: Ch. 1-3
Chapter 10:

1. Diagnostic Assessment: Am I Ready? completed in SE p. 563 or printed from *Assessment Masters* p 237. A ready-made diagnostic test is available online.

Board Approved: September 28, 2022

2. Check My Progress SE p. 593 (after Lesson 4) or *Assessment Masters* pg 239. A bank of questions is available in the Assessment tab in ConnectED.
3. Ch. 10 Summative Assessment completed in ConnectED or printed from *Assessment Masters* pg 241.

Ch. 10 Project – A Class Carnival – Students plan and carry out a class carnival by creating several games involving the use of fractions.

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Domain 4: Measurement and Data	
Chapter 11: Measurement (10 days) Chapter 12: Represent and Interpret Data (12-13 days) Chapter 13: Perimeter and Area (14-15 days)	
NJ 2016 Student Learning Standards: Mathematics Grade 3 **Operations and Algebraic Thinking**	**NJDOE Mathematics Curricular Framework** Guide Document and Supports

3.OA.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. **Measurement and Data** 3.MD.1 – Tell and write time to the nearest minute and measure time intervals in minutes. Solve word problems involving addition, subtraction of time intervals in minutes e.g., by representing the problem on a number line diagram. 3.MD.2 – Measure and estimate liquid volumes and masses of objects using standard units of grams, kilograms, and liters. 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 to represent the problem. 3.MD.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. 3.MD.4 – Generate measurement data by measuring lengths using rulers marled 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. 3.MD.5 – Recognize area as an attribute of plane figures and understand concepts of area measurement. 3.MD.6 – Measure areas by counting unit squares. 3.MD.7 - Relate area to the operations of multiplication and	Mathematics Curricular Framework **Mathematical Practices** **MP. The Standards for Mathematical Practice describe varieties of expertise that mathematics educators at all levels should seek to develop in their students.** **highlight appropriate indicators for unit/domain** MP.1. Make sense of problems and persevere in solving them. MP.2. Reason abstractly and quantitatively. MP.3. Construct viable arguments and critique the reasoning of others. MP.4. Model with mathematics. MP.5. Use appropriate tools strategically. MP.6. Attend to precision. MP.7. Look for and make use of structure. MP.8. Look for and express regularity in repeated reasoning.

addition. 3.MD.8 – 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.	
Career Readiness, Life Literacies, and Key Skills Integration **NJSLS - CRLLKS 2020** **highlight appropriate indicators for unit/domain** CRLLKS1. Act as a responsible and contributing community members and employee. CRLLKS2. Attend to financial well-being. CRLLKS3. Consider the environmental, social and economic impacts of decisions. CRLLKS4. Demonstrate creativity and innovation. CRLLKS5. Utilize critical thinking to make sense of problems and persevere in solving them CRLLKS6. Model integrity, ethical leadership and effective management. CRLLKS7. Plan education and career paths aligned to personal goals. CRLLKS8. Use technology to enhance productivity increase collaboration and communicate effectively.persevere in solving them. CRLLKS9. Work productively in teams while using	**21st Century Student Outcomes** http://www.battelleforkids.org/networks/p21 **Learning and Innovation Skills** **highlight appropriate indicators for unit/domain** Think Creatively Work Creatively with Others Implement Innovations Reason effectively Use Systems Thinking Make Judgments and Decisions Solve Problems Communicate Clearly Collaborate with Others **Life and Career Skills** **highlight appropriate indicators for unit/domain** Adapt to Change Be Flexible Manage Goals and Time Work Independently Be Self-directed Learners Interact Effectively with Others

cultural/global competence.	Work Effectively in Diverse Teams
Enduring Understandings ● Length, mass, and volume can be measured using metric units of measurement. ● Bar models can be used to solve one and two step problems on measurements. ● Bar graphs and line plots help to organize data. Bar graphs are used to compare data. Line plots show how data is spread out. ● Length, weight, and capacity can be measured using customary units. ● Time can be used to tell when activities start and end, or how long an activity will last. Temperature can be used to understand what the weather will be like. ● Explore and understand units used to find perimeter and area of figures and analyze the relationship between them.	**Essential Questions** ● Why do we measure? ● How do we obtain useful information from a set of data? ● How are perimeter and area related and how are they different?
Content Knowledge ● Measure length in meters and centimeters. ● Measure mass in kilograms and grams. ● Measure volume in liters. ● Add, subtract, multiply and divide using bar models. ● Use a picture graph to represent data. ● Use a bar graph to represent data. ● Use line plots to show how often something happens and to organize data. ● Measure length in feet and inches. ● Use tools to measure mass, and define volume and capacity.	**Skills** ● Select appropriate units and tools to estimate and measure length, weight, volume and capacity. ● Use meter sticks, 12-inch rulers, and yardsticks to measure length. ● Measure length to the nearest half inch and inch. ● Use referents to estimate distance, weight, and capacity. ● Estimate and measure length, distance, and height in meters, centimeters, and kilometers. ● Convert among metric units of length. ● Solve one- and two-step real world problems in

• Skip count by 5s to find minutes. • Know that 60 minutes is 1 hour. • Find elapsed time. • Use an area model to multiply. • Measure length with a ruler.	measurement. • Estimate and measure masses of objects. • Convert among units of mass and metric units of capacity. • Determine the volume and capacity of a container. • Recognize the relationship among units of customary capacity. • Estimate and measure capacity in liters and milliliters. • Tell time on a digital clock. • Convert between hours and minutes. • Determine elapsed time. • Add and subtract units of time. • Read a Fahrenheit thermometer. • Choose the appropriate tool and unit to measure temperature. • Use referents to estimate temperature. • Measure perimeter of plane figures. • Estimate the perimeter of surfaces and objects. • Choose the appropriate tool, unit, and strategy to measure perimeter. • Find and compare the area of plane figures in different square units. • Draw different plane figures with the same area. • Estimate area of small and large surfaces. • Compare the area and perimeter of two plane figures. • Find the area of rectangles and composite figures. • Collect and organize data in bar graphs and line plots. • Represent measurement data in a line plot where the horizontal scale is marked in whole numbers, halves, or quarters. • Interpret picture graphs with scales. • Use frequency tables, bar graphs, picture graphs, and

	line plots to solve real world problems.

Primary and Supplementary Resources

* My Math Grade 3 Student book
* My Math Grade 3 Volume 1 Teacher's Edition

My Math Resources

EdConnect Login

NJSLA Mathematics Operational Evidence Statements
https://docs.google.com/spreadsheets/d/18M5r1jk4P729fTpAlWAzrw1gE6tken233I-Yk0U712M/edit#gid=554025491

NJSLA Released Items
https://nj.digitalitemlibrary.com/home
https://resources.newmeridiancorp.org/

Illustrative Mathematics

iReady
i-Ready makes differentiated instruction a practical reality for teachers and students. *i-Ready*:

- integrates powerful assessments and rich insights with effective and engaging instruction in reading and mathematics to address students' individual needs.
- empowers teachers every day to make more informed instructional decisions.
- motivates students with access to their own personalized path to growth.

XtraMath

- This program helps students practice their math facts for addition, subtraction, multiplication, and addition.
- Can individualize the fluency skills for each student.
- Can run reports to determine progress.

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- ➢ Fun videos which explain common mathematics concepts.
- ➢ Questions at the end of the video reinforce the concepts.

Khan Academy

- ➢ a set of online tools that help educate students. The organization produces short lessons in the form of YouTube videos.
- ➢ Its website also includes supplementary practice exercises and materials for educators.

3rd grade Flip Book:
https://drive.google.com/file/d/1Ua8txR31bkZM2j2JxFRm18JiUluKttY1/view?usp=sharing

101 Math Discourse Questions:
http://www.casamples.com/downloads/100MathDiscourseQuestions_Printable.pdf

Asking Effective Questions
http://www.edu.gov.on.ca/eng/literacynumeracy/inspire/research/CBS_AskingEffectiveQuestions.pdf

Fluency Support for Grades 3-5
https://jenniferfindley.com/free-math-intervention-activities-grades-3-5/

Achieve the Core Coherence Map
https://achievethecore.org/coherence-map/3

Chapter 11: Measurement

Lesson 1: Estimate and Measure Capacity

- Vocabulary: capacity, liquid volume, liter, metric unit, milliliter, unit

Lesson 2: Solve Capacity Problems

- Vocabulary: capacity

Lesson 3: Estimate and Measure Mass

- Vocabulary: gram, kilogram, mass

Lesson 4: Solve Mass Problems

- Vocabulary: Mass

Lesson 5: Tell Time to the Minute

- Vocabulary: analog clock, digital clock

Lesson 6: Time Intervals

- Vocabulary: intervals

Lesson 7: Problem-Solving Investigation

Chapter 12: Represent and Interpret Data

Lesson 1: Collect and Record Data

- Vocabulary: data, frequency table, survey, tally chart, tally mark (s)

Lesson 2: Draw Scaled Picture Graphs

- Vocabulary: analyze, interpret, pictograph, key, picture graph

Lesson 3: Draw Scaled Bar Graphs

- Vocabulary: bar graph, scale

Lesson 4: Relate Bar Graphs to Scaled Picture Graphs

- Vocabulary: bar graph, pictograph

Lesson 5: Draw and Analyze Line Plots

- Vocabulary: line plot

Lesson 6: Measure to Halves and Fourths of an Inch

- Vocabulary: half inch (1/2), quarter inch (1/4)

Lesson 7: Collect and Display Measurement Data

- Vocabulary: half inch (1/2), quarter inch (1/4)

Lesson 8: Problem-Solving Investigation

Chapter 13: Perimeter and Area

Lesson 1: Find Perimeter

- Vocabulary: perimeter

Lesson 2: Perimeter

- Vocabulary: perimeter

Lesson 3: Understand Area

- Vocabulary: area, square unit, unit square

Lesson 4: Measure Area

- Vocabulary: area

Lesson 5: Tile Rectangles to Find Area

Lesson 6: Area of Rectangles

- Vocabulary: formula

Lesson 7: Area and the Distributive Property
Lesson 8: Area of Composite Figures
- Vocabulary: composite figures

Lesson 9: Area and Perimeter
- Vocabulary: area, perimeter

Lesson 10: Problem-Solving

Assessments: Ch. 1-3

Chapter 11:

1. Diagnostic Assessment: Am I Ready? completed in SE p. 625 or printed from *Assessment Masters* p 362. A ready-made diagnostic test is available online.
2. Check My Progress SE p. 657 (after Lesson 4) or *Assessment Masters* pg 364. A bank of questions is available in the Assessment tab in ConnectED.
3. Ch. 11 Summative Assessment completed in ConnectED or printed from *Assessment Masters* pg 266.
4. Ch. 11 Project – Time Travel – Have students think about what would be the same and what would be different about living in the past and future.

Chapter 12:

1. Diagnostic Assessment: Am I Ready? completed in SE p. 683 or printed from *Assessment Masters* p 287. A ready-made diagnostic test is available online.
2. Check My Progress SE p. 721 (after Lesson 5) or *Assessment Masters* pg 289. A bank of questions is available in the Assessment tab in ConnectED.
3. Ch. 12 Summative Assessment completed in ConnectED or printed from *Assessment Masters* pg 291.
4. Ch. 12 Project – Calling All Volunteers – Students will make a list of volunteer opportunities and create a horizontal bar graph to show where they want to volunteer.

Chapter 13:

1. Diagnostic Assessment: Am I Ready? completed in SE p. 747 or printed from *Assessment Masters* p 86. A ready-made diagnostic test is available online.
2. Check My Progress SE p. 777 (after Lesson 4) or *Assessment Masters* pg 314. A bank of questions is available in the Assessment tab in ConnectED.
3. Ch. 13 Summative Assessment completed in ConnectED or printed from *Assessment Masters* pg 317.
4. Ch. 13 Project – A Measurement Museum – Students will bring in various objects to measure length and perimeter. They will work together to find results. They will then open up the "museum" to peers and parents.

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Board Approved: September 28, 2022

- ➢ Introduce the next-grade-level standard
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<tr><td colspan="2">Chapter 14: Geometry (10 days)</td></tr>
<tr><td rowspan="2">NJ 2016 Student Learning Standards: Mathematics Grade 3

Geometry

A. Reason with shapes and their attributes.

3.G.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</td><td>NJDOE Mathematics Curricular Framework
Guide Document and Supports

Mathematics Curricular Framework</td></tr>
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MP. The Standards for Mathematical Practice describe varieties of expertise that mathematics educators at all levels should seek to develop in their students.</td></tr>
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examples of quadrilaterals that do not belong to any of these subcategories. 3.G.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 1/4 of the area of the shape.	**highlight appropriate indicators for unit/domain** MP.1. Make sense of problems and persevere in solving them. MP.2. Reason abstractly and quantitatively. MP.3. Construct viable arguments and critique the reasoning of others. MP.4. Model with mathematics. MP.5. Use appropriate tools strategically. MP.6. Attend to precision. MP.7. Look for and make use of structure. MP.8. Look for and express regularity in repeated reasoning.
Career Readiness, Life Literacies, and Key Skills Integration **NJSLS - CRLLKS 2020** **highlight appropriate indicators for unit/domain** CRLLKS1. Act as a responsible and contributing community members and employee. CRLLKS2. Attend to financial well-being. CRLLKS3. Consider the environmental, social and economic impacts of decisions. CRLLKS4. Demonstrate creativity and innovation. CRLLKS5. Utilize critical thinking to make sense of problems and persevere in solving them CRLLKS6. Model integrity, ethical leadership and effective management. CRLLKS7. Plan education and career paths aligned to personal goals. CRLLKS8. Use technology to enhance productivity increase	**21st Century Student Outcomes** http://www.battelleforkids.org/networks/p21 **Learning and Innovation Skills** **highlight appropriate indicators for unit/domain** Think Creatively Work Creatively with Others Implement Innovations Reason effectively Use Systems Thinking Make Judgments and Decisions Solve Problems Communicate Clearly Collaborate with Others **Life and Career Skills** **highlight appropriate indicators for unit/domain** Adapt to Change Be Flexible

collaboration and communicate effectively.persevere in solving them. CRLLKS9. Work productively in teams while using cultural/global competence.	Manage Goals and Time Work Independently Be Self-directed Learners Interact Effectively with Others Work Effectively in Diverse Teams
Enduring Understandings ● Two-dimensional figures have sides, angles and vertices. Many can be described, classified, and analyzed by their attributes. ● Polygons have many properties that can be described and classified by their sides and angles.	**Essential Questions** ● How can geometric shapes help me solve real-world problems?
Content Knowledge ● Polygons can be classified based on their properties. ● Figures can be congruent or symmetrical, or both.	**Skills** ● Identify perpendicular and parallel lines. ● Identify right angles and compare angles to right angles. ● Describe, analyze, compare, and classify two dimensional shapes by their sides and angles. ● Classify and sort polygons and quadrilaterals by specified attributes and properties. ● Investigate composing and decomposing two dimensional shapes. ● Use specified attributes and properties of shapes to solve problems. ● Measure and compare the area of plane figures in square units. ● Recognize a line of symmetry and symmetrical figures. ● Solve problems involving congruency. ● Identify pairs of shapes that show a flip, slide, and

	turn. ● Demonstrate that figures and their flip, slide, and turn images are congruent.

Primary and Supplementary Resources

* My Math Grade 3 Student book
* My Math Grade 3 Volume 1 Teacher's Edition

My Math Resources

EdConnect Login

NJSLA Mathematics Operational Evidence Statements
https://docs.google.com/spreadsheets/d/18M5r1jk4P729fTpAlWAzrw1gE6tken233I-Yk0U712M/edit#gid=554025491

NJSLA Released Items
https://nj.digitalitemlibrary.com/home
https://resources.newmeridiancorp.org/

Illustrative Mathematics

iReady
i-Ready makes differentiated instruction a practical reality for teachers and students. *i-Ready*:
- ➢ integrates powerful assessments and rich insights with effective and engaging instruction in reading and mathematics to address students' individual needs.
- ➢ empowers teachers every day to make more informed instructional decisions.
- ➢ motivates students with access to their own personalized path to growth.

XtraMath
- ➢ This program helps students practice their math facts for addition, subtraction, multiplication, and addition.
- ➢ Can individualize the fluency skills for each student.

➢ Can run reports to determine progress.

Scholastic Study Jams

➢ Fun videos which explain common mathematics concepts.
➢ Questions at the end of the video reinforce the concepts.

Khan Academy

➢ a set of online tools that help educate students. The organization produces short lessons in the form of YouTube videos.
➢ Its website also includes supplementary practice exercises and materials for educators.

3rd grade Flip Book:
https://drive.google.com/file/d/1Ua8txR31bkZM2j2JxFRm18JiUluKttY1/view?usp=sharing

101 Math Discourse Questions:
http://www.casamples.com/downloads/100MathDiscourseQuestions_Printable.pdf

Asking Effective Questions
http://www.edu.gov.on.ca/eng/literacynumeracy/inspire/research/CBS_AskingEffectiveQuestions.pdf

Fluency Support for Grades 3-5
https://jenniferfindley.com/free-math-intervention-activities-grades-3-5/

Achieve the Core Coherence Map
https://achievethecore.org/coherence-map/3

Chapter 14: Geometry

Lesson 1: Angles

- Vocabulary: angle, vertex, endpoint, ray, right angle

Lesson 2: Polygons

- Vocabulary: attribute, hexagon, octagon, pentagon, polygon, quadrilateral, triangle

Lesson 3: Triangles

- Vocabulary: right angle

Lesson 4: Quadrilaterals

- Vocabulary: parallel, parallelogram, rectangle, rhombus, trapezoid, square

Lesson 5: Shared Attributes of Quadrilaterals

- Vocabulary: attribute, quadrilateral

Lesson 6: Problem-Solving Investigation

Lesson 7: Partition Shapes

- Vocabulary: partition

Assessments: Ch. 1-3

Chapter 14:

1. Diagnostic Assessment: Am I Ready? completed in SE p. 185 or printed from *Assessment Masters* p 86. A ready-made diagnostic test is available online.
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4. Ch. 14 Project – Room Planning – Students create a room plan for their dream bedroom.

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