Introduction

The K-5 standards provide students with a solid foundation in whole numbers, addition, subtraction, multiplication, division, fractions and decimals—which help young students build the foundation to successfully apply more demanding math concepts and procedures, and move into applications.

*The standards stress not only procedural skill but also conceptual understanding, to make sure students are learning and absorbing the critical information they need to succeed at higher levels.

These standards define what students should understand and be able to do in their study of mathematics. What does mathematical understanding look like? One hallmark of mathematical understanding is the ability to justify, in a way appropriate to the student's mathematical maturity, why a particular mathematical statement is true or where a mathematical rule comes from. There is a world of difference between a student who can summon a mnemonic device to expand a product such as $(a + b)(x + y)$ and a student who can explain where the mnemonic comes from. The student who can explain the rule understands the mathematics, and may have a better chance to succeed at a less familiar task such as expanding $(a + b + c)(x + y)$. Mathematical understanding and procedural skill are equally important, and both are assessable using mathematical tasks of sufficient richness.

All students must have the opportunity to learn and meet the same high standards if they are to access the knowledge and skills necessary in their post-school lives. The standards do provide clear signposts along the way to the goal of college and career readiness for all students.

Gifted & Talented

The Saddle River School District extends learning opportunities to all high achieving students. It supports the philosophy that every student has special talents and gifts. The Saddle River School District's enrichment and gifted & talented programs offer a unique approach to servicing all students while maintaining a focus on those who are identified as needing pull out services through the district's screening/criteria process. The Saddle River School District's enrichment program focuses on bringing out the special talents in all learners as enrichment instruction is delivered to all students in grades kindergarten through fifth grade. The program follows the Joseph Renzulli schoolwide enrichment model that concentrates on "schools being a place for talent development," (Renzulli, 1994). The program follows a wide-range of enriching/developing activities based upon student strengths and interests. Additionally, the program focuses on enriching activities across the curriculum in providing complementary and developing features/standards for all subject areas. The enrichment program builds upon existing student learning standards in all content areas in coordination with instruction and student needs.

The Saddle River School District Gifted & Talented program offers pull-out instruction for those students meeting the multiple measures and specific criteria set forth and approved by the board of education. The

identification process may/can begin as early as kindergarten. The gifted and talented program follows the central theme that all appropriate curriculum standards are followed and that those standards are the foundation for developing student learning opportunities and standards across the curriculum. The gifted and talented program will provide the following in coordination with each content area when and where appropriate:

- Develop students' abilities and engage critical thinking skills
- Expand students' creative thought process and responses
- Advance students' research skills needed to become independent learners
- Develop students' abilities to self-evaluate their own learning process
- Enrich students' abilities in seeking and expanding their own knowledge in subject content areas and individual talents
- Develop students' ability to interact effectively in small-group and large-group setting
- Heighten students' ability in expanding on student learning standards to strengthen appropriate skills necessary for 21st century learning

English Language Learners (ELL)
The Saddle River School District recognizes the importance of increasing language proficiency while gaining confidence and strength so that academic goals and New Jersey state learning standards can be met. English Language Learners in the Saddle River School District are identified through a multitude of measures. These measure include, but are not limited to: a home language survey, parental conferencing, and daily teacher observations. Based on the information/data collected, the Saddle River School District will determine if a formal approved language assessment is necessary. The World-Class Instructional Design and Assessment (WIDA) is the assessment tool for those students recommended for ELL testing.

The Saddle River School District will provide the following accommodations for ELL students:

- Basic skills with a focus a the specific language skills
- Use of a translation dictionary (ipad, google translator, bilingual word to word dictionary)
- Preferential seating
- Extended time and/or modified classroom assignments
- Print out of teacher notes/lessons for additional review
- Extended time and/or modified assessments
- Extended time/accommodation for standardized testing in coordination with state regulations

Special Education Students
The Saddle River School District special education department offers a full continuum of services for students who are eligible for special education services. In order to meet the specific requirements for each learner, programs are developed so that that social, emotional and educational needs are met within the least restrictive environment. The specific program for each learner is based on individual needs where goals and objectives are set and followed accordingly. These individual educational plans follow a specific plan that is aligned to the student learning standards and may include, but is/are not limited to:

- Individual education plan
- Pull-out support
- Replacement content instruction
- In-class support
- Instructional aide(s)
- Support services (i.e.; speech, physical therapy, occupational therapy)

- Presentation accommodations (i.e.; notes, outlines, instructions, lists, organization)
- Response accommodations (i.e.; dictations, audio, dictionaries, calculation devices, scribes)
- Setting accommodations (i.e.; lighting, acoustics, seat placement, testing, sensory tools)
- Timing accommodations (i.e.; completing tasks, frequent breaks, processing directions)
- Scheduling accommodations (i.e.; spacing out projects/assignments, order of schedule)
- Organizational accommodations (i.e.; highlighter, time management, planning)
- Assignment modifications (i.e.; fewer tasks, alternate questions)
- Technology support (i.e; ipad, word processing, specific programs/apps)
- Testing accommodations (i.e.; extended time, placement, seating, time)

Students who require additional services outside of the district's resource program, may require an out-of-district placement. In this event, the Child Study Team will coordinate accordingly to ensure that all necessary learning standards are being met.

Students in Danger of Failing

For those students in danger of failing, the Saddle River School District has a specific referral process to ensure that student needs are being met. The Intervention & Referral Services (I&RS) is an interdisciplinary team of professional within the school that addresses a full range of student/staff needs and concerns. This process is designed to maximize student success and establish goals and benchmarks to promote outcomes that positively reflect academics, health, behavior, self-esteem, work habits and strong character. The I&RS team is comprised of a chairperson, child study team member, teachers and other school professionals so that a continuous system of support can be provided. The team provides a plan so that short and long term goals can be established and strategies can be implemented and designed specifically for each student. In trying to achieve success, the team works collaboratively in making growth for each student a top priority and adhere to a plan that is achievable but rigorous. This plan, as set by New Jersey I&RS Team Process, may contain, but is not limited to the following;

- Request for assistance
- Information collection
- Parent Notification
- Problem solving within the I&RS team
- Developing an I&RS action plan
- Supporting, evaluating and continuing the process

In evaluating and monitoring students, the I&RS team closely calculates a plan so that curriculum needs can be met. In order to achieve and demonstrate success, the Saddle River School District provides modifications and support so that consideration is given to, but not limited to, the following:

- Student strengths/weaknesses
- Classroom and standardized assessments
- Academic records
- Social and behavioral patterns
- Previous history or concern
- Participation in class (and interaction with peers)
- Health related concerns
- Family concerns
- Retention of information/instruction
- Student interests
- Independent & group work habits
- Emotional status
- Study habits (at home/school)

- Present level of functioning
- Expectations (academic, social, behavioral, etc.)
- Following classroom rules/directions/procedures

As the I&RS team formulates a plan, many ongoing concerns are addressed within the team and may include parental notification/input. The problem solving objectives as set forth by New Jersey I&RS Team Process will:

- Describe the problem
- Identify the priority
- Develop objectives
- Review previous interventions
- Create new strategies
- Analyze and evaluate solutions

The Saddle River School District continues to inform and update staff of the I&RS procedures. The procedures are as follows:

- Teacher recognizes a problem(s) with a particular student in class and refers the student to the I&RS committee by filling out the appropriate paperwork. An I&RS meeting is scheduled to and the committee and appropriate staff members gather to discuss and begin the proactive process of assistance.
- Information from the teacher(s), administrator(s), and other school personnel is collected.
- Parent notification where/when appropriate
- The I&RS team begins the problem solving process by offering ideas and suggestions pertaining to the problems while prioritizing the most important issues.
- The I&RS team develops an action plan with specific strategies that can be implemented to achieve both short term and long term goals.
- The I&RS team meets regularly to evaluate and support the action plan (and to adjust accordingly when/where appropriate). Parents are notified on an ongoing basis to continue communication in the support of implementing the strategies set forth in the action plan.

Basic Skills Instruction is also a valuable resource that the Saddle River School District uses to meet the needs of struggling students. Students who require additional academic support will be offered that assistance in all subject areas. This system allows the students to receive in-class or pull-out support when and where appropriate so that grade level curriculum and student learning goals can be met. This program is an intervention system used to create a positive and constructive learning environment so that students can achieve success.

After the I&RS action plan has been in place the team may continue with the current strategies, offer/discuss new strategies or decide that the student should be referred to the district's child study team. In the instance of referring a student to the child study team, it can be concluded that many of the strategies from the action plan were not benefitting the student as intended. The child study team them would follow the guidelines for the referral process and notify the parents/guardians of the potential special education recommendation.

National Governors Association Center for Best Practices, Council of Chief State School Officers. "Common Core State Standards - Mathematics." National Governors Association Center for Best Practices, Council of Chief State School Officers, Washington D.C., 2010. Web. 20 June 2012. <http://www.corestandards.org/the-standards/mathematics>.

Unit Overview

Content Area: Mathematics

Unit Title: Number and Operations in Base Ten

Target Course/Grade Level: Grade 3

Unit Summary

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.

In this unit, students develop an understanding of the meanings of multiplication and division of whole numbers through activities and problems involving equal-sized groups, arrays, and area models; multiplication is finding an unknown product, and division is finding an unknown factor in these situations. For equal-sized group situations, division can require finding the unknown number of groups or the unknown group size.

Students use properties of operations to calculate products of whole numbers, using increasingly sophisticated strategies based on these properties to solve multiplication and division problems involving single-digit factors. By comparing a variety of solution strategies, students learn the relationship between multiplication and division.

Primary interdisciplinary connections: Science, Social Studies, Literature, Physical Education

21st century themes:
- Critical Thinking/Problem Solving
- Communication
- Collaboration

Unit Rationale

A firm grounding in the big picture of how operations with numbers interrelate and how they are vital tools in life can help students build the positive attitudes that will help them become confident, efficient, and effective problem-solvers (McConnell, 2011)

Algebraic thinking develops problem-solving skills. Students must analyze what they know and don't know about a problem, determine a method for finding solutions, and check results for accuracy. Algebra provides students with resources for dealing with real-world situations in a "systematic, analytic manner." (McConnell, 2011)

Learning Targets

Standards

- 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.OA.D.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.D.9** Identify arithmetic patterns (including patterns in the addition table or multiplication table), and explain them using properties of operations. *For example, observe that 4 times a number is always even, and explain why 4 times a number can be decomposed into two equal addends.*

Content Statements
- Use place value understanding and properties of operations to perform multi-digit arithmetic.
- Solve problems involving the four operations, and identify and explain patterns in arithmetic.

Indicators	
3.NBT.A.1	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.OA.D.8	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.
3.OA.D.9	Recognize arithmetic patterns in addition or multiplication tables and explain the pattern using the properties of operations.

Unit Essential Questions	Unit Enduring Understandings
- Topic 1: Numeration - How are numbers read and written? - How can whole numbers be rounded? - Topic 2: Number Sense: Addition and Subtraction - How can sums and differences be found mentally? - How can sums and differences be estimated? - Topic 3: Using Place Value to Add and Subtract - What are standard procedures for adding and subtracting whole numbers?	Computational fluency includes understanding the meaning and the appropriate use of numerical operations. The magnitude of numbers affects the outcome of operations on them. In many cases, there are multiple algorithms for finding a mathematical solution, and those algorithms are frequently associated with different cultures. Context is critical when using estimation. One representation may sometimes be more helpful than another; and, used together, multiple representations give a fuller understanding of a problem. A quantity can be represented numerically in various ways. Problem solving depends upon choosing wise ways. Numeric fluency includes both the understanding of and the ability to appropriately use numbers. The symbolic language of algebra is used to communicate and generalize the patterns in mathematics. Algebraic representation can be used to generalize patterns and relationships. Mathematical models can be used to describe and quantify physical relationships.

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	● Physical models can be used to clarify mathematical relationships. **(source:** http://jaymctighe.com/wordpress/wp-content/uploads/2013/04/NEW-JERSEY-UbD-MAPS.pdf **)**

Unit Learning Targets

Students will ...

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.

Recognize arithmetic patterns in addition or multiplication tables and explain the pattern using the properties of operations.

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.

Round whole numbers to the nearest 10 or 100.

Evidence of Learning

Summative Assessment (at the end of each topic)

Each topic has a summative test and a performance task.

Equipment needed: see each topic

Teacher Resources:

enVision Math Common Core: Realize Edition. 2015

Formative Assessments

● teacher observation	· "Independent Practice"
● homework	· Topic performance task
● "Review What You Know"	·

Topics

Topic	Timeframe
Topic 1 *Numeration*	14 days
Topic 2 *Number Sense: Addition and Subtraction*	14 days
Topic 3 *Using Place Value to Add and Subtract*	14 days

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Teacher Notes:

This unit consists of three topics from the enVision Math series with anywhere from 7 to 13 lessons per topic. These four topics address the Number and Operations in Base Ten and Operations and Algebraic Thinking domains for Mathematics for Grade 3 students. In addition, these three topics address all eight of the Standards for Mathematical Practice.

Essential questions were taken directly from the textbook series used by the district, *enVision Math Common Core: Realize Edition.*

Enduring understandings were taken from *Overarching Understandings and Essential Questions (New Jersey)* at http://jaymctighe.com/resources/downloads/

Curriculum Development Resources

Click the links below to access additional resources used to design this unit:

NJDOE. "Model Curriculum: Mathematics (K-12) - Grade 3." Model Curriculum: Mathematics (K-12) - Grade 3. New Jersey Dept. of Education, n.d. Web. 27 June 2015. <http://www.state.nj.us/education/modelcurriculum/math/1.shtml>.

Charles, Randall. *enVision Math Common Core*. Realize ed. Grade 3. Upper Saddle River: Pearson Education, 2015. Print. enVision Math Common Core

McConnell, Carolyn. *The Essential Questions Handbook*. New York: Scholastic, 2011. Print.

Topic 1

Content Area: Mathematics

Lesson Title: Numeration	14 days

Topic Components

21st Century Themes

	Global Awareness	x	Financial, Economic, Business, and Entrepreneurial Literacy		Civic Literacy		Health Literacy		Environmental Literacy

21st Century Skills

	Creativity and Innovation	x	Critical Thinking and Problem Solving	x	Communication	x	Collaboration

Interdisciplinary Connections: Science, Social Studies, Physical Education, Writing

Integration of Technology: Digital Resources are part of this textbook series

Equipment needed: base ten blocks, number lines, estimation jars, place value charts

Topic Vocabulary
- place value
- standard form
- expanded form
- word form
- round

Goals/Objectives	Topic 1 Sequence	Formative Assessment Tasks
Students: ● Round whole numbers to the nearest 10 or 100. ● Fluently add and subtract (with regrouping) two 2-digit whole numbers within 100.	1. Review What You Know! 2. Interactive Learning 3. Representing Numbers 4. Understanding Number Lines 5. Counting on the Number Line 6. Finding the Halfway Number 7. Rounding 8. Algebra Connections 9. More Rounding 10. Problem Solving: Make an Organized List 11. Reteaching 12. Topic 1 Test 13. Performance Task	● Teacher observation ● Independent practice ● Topic test ● Performance task
Differentiation		

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- differentiated worksheets/activities for each lesson
- leveled homework for each lesson
- reteaching resources at the end of each lesson

Resources Provided
- *enVision Math Common Core: Realize Edition* teacher's guides, workbooks, digital resources, manipulatives

Topic 2

Content Area: Mathematics

Lesson Title: Number Sense: Addition and Subtraction	14 days

Topic Components

21st Century Themes

Global Awareness	x	Financial, Economic, Business, and Entrepreneurial Literacy		Civic Literacy		Health Literacy		Environmental Literacy

21st Century Skills

Creativity and Innovation	x	Critical Thinking and Problem Solving	x	Communication	x	Collaboration

Interdisciplinary Connections: Science, Social Studies, Physical Education,

Integration of Technology: Digital Resources are part of this textbook series

Equipment needed: cups, counters, number lines

Topic Vocabulary:
- Commutative (Order) Property of Addition
- Identity (Zero) Property of Addition
- Associative (Grouping) Property of Addition
- fact family
- difference
- estimate
- compatible numbers

Goals/Objectives	Topic 2 Sequence	Formative Assessment Tasks

Students:

- Round whole numbers to the nearest 10 or 100.
- Fluently add and subtract (with regrouping) two 2-digit whole numbers within 100.
- 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.
- Recognize arithmetic patterns in addition or multiplication tables and explain the pattern using the properties of operations.

1. Review What You Know!
2. Interactive Learning
3. Addition Meaning and Properties
4. Subtraction Meanings
5. Using Mental Math to Add
6. Going Digital
7. Using Mental Math to Subtract
8. Estimating Sums
9. Algebra Connections
10. Estimating Differences
11. Mixed Problem Solving
12. Problem Solving: Reasonableness
13. Reteaching
14. Topic 2 Test
15. Performance Task

- Teacher observation
- Independent practice
- Topic test
- Performance task

Differentiation

• differentiated worksheets/activities for each lesson
• leveled homework for each lesson
• reteaching resources at the end of each lesson

Resources Provided
- *enVision Math Common Core: Realize Edition* teacher's guides, workbooks, digital resources, manipulatives

Topic 3

Content Area: Mathematics

Lesson Title: Using Place Value to Add and Subtract	14 days

Topic Components

21st Century Themes

	Global Awareness	x	Financial, Economic, Business, and Entrepreneurial Literacy		Civic Literacy		Health Literacy		Environmental Literacy

21st Century Skills

	Creativity and Innovation	x	Critical Thinking and Problem Solving	X	Communication	x	Collaboration

Interdisciplinary Connections: Science, Social Studies, Physical Education,

Integration of Technology: Digital Resources are part of this textbook series

Equipment needed: base ten blocks, balance scale
Topic Vocabulary:
- equation
- inverse operations

Goals/Objectives	Topic 3 Sequence	Formative Assessment Tasks
Students: - Round whole numbers to the nearest 10 or 100. - Fluently add and subtract (with regrouping) two 2-digit whole numbers within	1. Review What You Know! 2. Interactive Learning 3. Adding with an Expanded Algorithm 4. Models for Adding 3-Digit Numbers 5. Going Digital 6. Adding 3-Digit Numbers 7. Adding 3 or More Numbers 8. Problem Solving: Draw a Picture 9. Subtracting with an Expanded Algorithm 10. Models for Subtracting 3-Digit Numbers 11. Subtracting 3-Digit Numbers 12. Algebra Connections 13. Subtracting Across Zero 14. Making Sense of Addition Equations 15. Making Sense of Subtraction Equations 16. Adding and Subtracting 17. Problem Solving: Draw a Picture and Write a Number Sentence	- Teacher observation - Independent practice - Topic test - Performance task

100.	18. Going Digital	

19. Reteaching
20. Topic 3 Test
21. Performance Task

Differentiation

• differentiated worksheets/activities for each lesson
• leveled homework for each lesson
• reteaching resources at the end of each lesson

Resources Provided
- *enVision Math Common Core: Realize Edition* teacher's guides, workbooks, digital resources, manipulatives

Unit Overview
Content Area: Mathematics
Unit Title: Operations and Algebraic Thinking
Target Course/Grade Level: Grade 3
Unit Summary

Students develop an understanding of the meanings of multiplication and division of whole numbers through activities and problems involving equal-sized groups, arrays, and area models; multiplication is finding an unknown product, and division is finding an unknown factor in these situations. For equal-sized group situations, division can require finding the unknown number of groups or the unknown group size. Students use properties of operations to calculate products of whole numbers, using increasingly sophisticated strategies based on these properties to solve multiplication and division problems involving single-digit factors. By comparing a variety of solution strategies, students learn the relationship between multiplication and division.

Source: The introduction to the Common Core Standard for Mathematics. Retrieved from http://www.corestandards.org/Math/Content/3/introduction/

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Primary interdisciplinary connections: Science, Social Studies, Physical Education

21st century themes:
- Critical Thinking/Problem Solving
- Communication
- Collaboration

Unit Rationale

A firm grounding in the big picture of how operations with numbers interrelate and how they are vital tools in life can help students build the positive attitudes that will help them become confident, efficient, and effective problem-solvers (McConnell, 2011)

Algebraic thinking develops problem-solving skills. Students must analyze what they know and don't know about a problem, determine a method for finding solutions, and check results for accuracy. Algebra provides students with resources for dealing with real-world situations in a "systematic, analytic manner." (McConnell, 2011)

Recognizing, analyzing and constructing patterns helps to build a "strong foundation of algebra readiness", and is central to both art and science. (McConnell, 2011)

Learning Targets

Standards
- 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 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 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 $8 \times ? = 48$, $5 = \_ \div 3$, $6 \times 6 = ?$*
- 3.OA.B.5 Apply properties of operations as strategies to multiply and divide. *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 Fluently 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 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.D.9 Identify arithmetic patterns (including patterns in the addition table or multiplication

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table), and explain them using properties of operations. *For example, observe that 4 times a number is always even, and explain why 4 times a number can be decomposed into two equal addends.*

- 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.

Content Statements
- Represent and solve problems involving multiplication and division.
- Understand properties of multiplication and the relationship between multiplication and division.
- Multiply and divide within 100.
- Solve problems involving the four operations, and identify and explain patterns in arithmetic.
- Use place value understanding and properties of operations to perform multi-digit arithmetic.

Indicators	
3.NBT.A.3	Multiply one-digit whole numbers by multiples of 10 (10 - 90).
3.OA.A.1	Interpret products of whole numbers as repeated addition or equal groups of objects (up to 100).
3.OA.A.2	Explain division as a set of objects partitioned equally into a number of shares (up to 100).
3.OA.A.3	Use multiplication and division within 100 to solve word problems using measurement quantities by creating drawings or arrays.
3.OA.A.4	Determine the unknown in a division or multiplication equation with an unknown relating 3 whole numbers up to 100 (does not require students to solve from memory).
3.OA.B.5	Recognize the Commutative, Associative, and Distributive Properties as strategies to add and multiply whole numbers.
3.OA.B.6	Solve division of whole numbers by representing the problem as an unknown factor problem.
3.OA.C.7	Fluently multiply and divide within 100, using the relationship between multiplication and division.
3.OA.D.8	Solve two-step word problems using the four operations. 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.
3.OA.D.9	Recognize arithmetic patterns in addition or multiplication tables and explain the pattern using the properties of operations.

Unit Essential Questions	Unit Enduring Understandings

● Topic 4: Meanings of Multiplication
   ○ What are different meanings of multiplication?
   ○ How are addition and multiplication related?
● Topic 5: Multiplication Facts: Use Patterns
   ○ What patterns can be used to find certain multiplication facts?
● Topic 6: Multiplication Facts: Use Known Facts
	● Computational fluency includes understanding the meaning and the appropriate use of numerical operations.
	● The magnitude of numbers affects the outcome of operations on them.
	● In many cases, there are multiple algorithms for finding a mathematical solution, and those algorithms are frequently associated with different cultures.
	● Context is critical when using estimation.
	● One representation may sometimes be more

- How can unknown multiplication facts be found using known facts?
- Topic 7: Meanings of Division
  - What are different meanings of division?
  - How is division related to other operations?
- Topic 8: Division Facts
  - How can an unknown division fact be found by thinking of a related multiplication fact?

helpful than another; and, used together, multiple representations give a fuller understanding of a problem.

A quantity can be represented numerically in various ways. Problem solving depends upon choosing wise ways.

Numeric fluency includes both the understanding of and the ability to appropriately use numbers.

The symbolic language of algebra is used to communicate and generalize the patterns in mathematics.

Algebraic representation can be used to generalize patterns and relationships.

Mathematical models can be used to describe and quantify physical relationships.

Physical models can be used to clarify mathematical relationships.

(source: http://jaymctighe.com/wordpress/wp-content/uploads/2013/04/NEW-JERSEY-UbD-MAPS.pdf)

Unit Learning Targets
Students will ...

Interpret products of whole numbers as repeated addition or equal groups of objects (up to 100).

Explain division as a set of objects partitioned equally into a number of shares (up to 100).

Use multiplication within 100 to solve word problems using measurement quantities by creating drawings or arrays.

Determine the unknown in a division or multiplication equation with an unknown relating 3 whole numbers up to 100.

Recognize the Commutative, Associative, and Distributive Properties as strategies to add and multiply whole numbers.

Solve division of whole numbers by representing the problem as an unknown factor problem.

Fluently multiply and divide within 100, using the relationship between multiplication and division.

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.

Recognize arithmetic patterns in addition or multiplication tables and explain the pattern using the properties of operations.

Evidence of Learning

Summative Assessment (at the end of each topic)

Each topic has a summative test and a performance task.

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Teacher Resources:

enVision Math: Realize Edition. 2015

Formative Assessments

- teacher observation
- homework
- "Review What You Know"

- "Independent Practice"
- Topic performance task
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Topics	
Topic	**Timeframe**
Topic 4 *Meanings of Multiplication*	14 days
Topic 5 *Multiplication Facts: Use Patterns*	14 days
Topic 6 *Multiplication Facts: Use Known Facts*	14 days
Topic 7 *Meanings of Division*	14 days
Topic 8 *Division Facts*	14 days

Teacher Notes:

This unit consists of five topics from the enVision Math Common Core series with anywhere from 7 to 9 lessons per topic. These five topics address the Operations and Algebraic Thinking domain for Mathematics for Grade 3 students. In addition, these five topics address all eight of the Standards for Mathematical Practice.

Essential questions were taken directly from the textbook series used by the district, *enVision Math: Realize Edition.*

Enduring understandings were taken from *Overarching Understandings and Essential Questions (New Jersey)* at http://jaymctighe.com/resources/downloads/

Curriculum Development Resources

Click the links below to access additional resources used to design this unit:

NJDOE. "Model Curriculum: Mathematics (K-12) - Grade 3." Model Curriculum: Mathematics (K-12) - Grade 3. New Jersey Dept. of Education, n.d. Web. 27 June 2015. <http://www.state.nj.us/education/modelcurriculum/math/1.shtml>.

Charles, Randall. *enVision Math Common Core*. Realize ed. Grade 3. Upper Saddle River: Pearson Education, 2015. Print. enVision Math

Topic 4

Grade 3 Wandell School Math Curricula

Aligned to the New Jersey Student Learning Standards

ENGAGING STUDENTS • FOSTERING ACHIEVEMENT • CULTIVATING 21ST CENTURY GLOBAL SKILLS

Content Area: Mathematics	
Topic Title: Meanings of Multiplication	**14 days**

Topic Components

21st Century Themes

Global Awareness	x	Financial, Economic, Business, and Entrepreneurial Literacy		Civic Literacy		Health Literacy		Environmental Literacy

21st Century Skills

Creativity and Innovation	x	Critical Thinking and Problem Solving	x	Communication		x	Collaboration	

Interdisciplinary Connections: Science, Social Studies, Physical Education, Writing

Integration of Technology: Digital Resources are part of this textbook series

Equipment needed: counters
Topic Vocabulary:
- multiplication
- factors
- product
- array
- Commutative Property of Multiplication

Goals/Objectives	Topic 4 Sequence	Formative Assessment Tasks
Students: • Interpret products of whole numbers as repeated addition or equal groups of objects (up to 100). • Use multiplication within 100 to solve word problems using measurement quantities by creating drawings or arrays. • Recognize the Commutative, Associative, and Distributive Properties as strategies to add and	1. Review What You Know! 2. Interactive Learning 3. Multiplication as Repeated Addition 4. Arrays and Multiplication 5. The Commutative Property 6. Writing Multiplication Stories 7. Problem Solving: Writing to Explain 8. Reteaching 9. Topic 4 Test 10. Performance Task	• Teacher observation • Independent practice • Topic test • Performance task

multiply whole numbers.		

● Recognize arithmetic patterns in addition or multiplication tables and explain the pattern using the properties of operations. ●	

Differentiation

• differentiated worksheets/activities for each lesson
• leveled homework for each lesson
• reteaching resources at the end of each lesson

Resources Provided

● *enVision Math Common Core: Realize Edition* teacher's guides, workbooks, digital resources, manipulatives

Topic 5
Content Area: Mathematics

Topic Title: Multiplication Facts: Use Patterns	**14 days**

Topic Components

21ˢᵗ Century Themes

Global Awareness	x	Financial, Economic, Business, and Entrepreneurial Literacy		Civic Literacy		Health Literacy		Environmental Literacy

21ˢᵗ Century Skills

Creativity and Innovation	x	Critical Thinking and Problem Solving	x	Communication	x	Collaboration		

Interdisciplinary Connections: Science, Social Studies, Physical Education, Writing
Integration of Technology: Digital Resources are part of this textbook series

Equipment needed: hundreds chart, counters
Topic Vocabulary:

● multiple
● Identity (One) Property of Multiplication

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- The Zero Property of Multiplication

Goals/Objectives	Topic 5 Sequence	Formative Assessment Tasks
Students: • Recognize arithmetic patterns in addition or multiplication tables and explain the pattern using the properties of operations. • Recognize the Commutative, Associative, and Distributive Properties as strategies to add and multiply whole numbers. • Fluently multiply and divide within 100, using the relationship between multiplication and division. • 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. • Recognize arithmetic patterns in addition or multiplication tables and explain the pattern using the properties of operations. • Multiply one-digit whole numbers by	1. Review What You Know! 2. Interactive Learning 3. 2 and 5 as Factors 4. Going Digital 5. 9 as a Factor 6. Multiplying with 0 and 1 7. Patterns for Facts 8. 10 as a Factor 9. Multiplying by Multiples of 10 10. Problem Solving: Two-Question Problems 11. Reteaching 12. Topic 5 Test 13. Performance Task	• Teacher observation • Independent practice • Topic test • Performance task

multiples of 10 (10 - 90).		

Differentiation

• differentiated worksheets/activities for each lesson
• leveled homework for each lesson
• reteaching resources at the end of each lesson

Resources Provided

- *enVision Math Common Core: Realize Edition* teacher's guides, workbooks, digital resources, manipulatives

Topic 6

Content Area: Mathematics	

Topic Title: Multiplication Facts: Use Known Facts	14 days

Topic Components

21st Century Themes

Global Awareness	x	Financial, Economic, Business, and Entrepreneurial Literacy		Civic Literacy		Health Literacy		Environmental Literacy

21st Century Skills

Creativity and Innovation	x	Critical Thinking and Problem Solving	X	Communication	x	Collaboration

Interdisciplinary Connections: Science, Social Studies, Physical Education, Writing

Integration of Technology: Digital Resources are part of this textbook series

Equipment needed: counters
Topic Vocabulary:

- Distributive Property

- Associative (Grouping) Property of Multiplication

Goals/Objectives	Topic 6 Sequence	Formative Assessment Tasks
Students: • Use multiplication within 100 to solve word problems modeled as equal groups or arrays by writing equations to represent equal groups or arrays. •Recognize the Commutative, Associative, and Distributive Properties as strategies to add and multiply whole numbers. •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.	1. Review What You Know! 2. Interactive Learning 3. The Distributive Property 4. 3 as a Factor 5. 4 as a Factor 6. 6 and 7 as Factors 7. Algebra Connections 8. 8 as a Factor 9. Multiplying with 3 Factors 10. Multiplication Facts 11. Multiplying to Find Combinations 12. Problem Solving: Multiple-Step Problems 13. Going Digital 14. Reteaching 15. Topic 6 Test 16. Performance Task	● Teacher observation ● Independent practice ● Topic test ● Performance task

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Differentiation

• differentiated worksheets/activities for each lesson
• leveled homework for each lesson
• reteaching resources at the end of each lesson

Resources Provided
- *enVision Math Common Core: Realize Edition* teacher's guides, workbooks, digital resources, manipulatives

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Topic 7

Content Area: Mathematics

Topic Title: Meanings of Division	14 days

Topic Components

21st Century Themes

	Global Awareness	x	Financial, Economic, Business, and Entrepreneurial Literacy		Civic Literacy		Health Literacy		Environmental Literacy

21st Century Skills

	Creativity and Innovation	x	Critical Thinking and Problem Solving	x	Communication	x	Collaboration

Interdisciplinary Connections: Science, Social Studies, Physical Education, Writing

Integration of Technology: Digital Resources are part of this textbook series

Equipment needed: counters, multiplication chart
Topic Vocabulary:
- division
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Goals/Objectives	Topic 7 Sequence	Formative Assessment Tasks

Students:		
•Explain division as a set of objects partitioned	1. Review What You Know! 2. Interactive Learning 3. Division as Sharing	● Teacher observation ● Independent practice ● Topic test ● Performance task

equally into a number of shares (up to 100). •Use multiplication within 100 to solve word problems modeled as equal groups or arrays by writing equations to represent equal groups or arrays. •Use multiplication within 100 to solve word problems using measurement quantities by creating drawings or arrays. •Determine the unknown in a division or multiplication equation with an unknown relating 3 whole numbers up to 100. •Solve division of whole numbers by representing the problem as an unknown factor problem. •Recognize arithmetic patterns in addition or multiplication tables and explain the pattern using the properties of operations.	4. Division as Repeated Subtraction 5. Finding Missing Numbers in a Multiplication Table 6. Problem Solving: Choose an Appropriate Equation 7. Writing Division Stories 8. Problem Solving: Use Objects and Draw a Picture 9. Reteaching 10. Topic 7 Test 11. Performance Task	

Differentiation

• differentiated worksheets/activities for each lesson
• leveled homework for each lesson

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• reteaching resources at the end of each lesson

Resources Provided
- *enVision Math Common Core: Realize Edition* teacher's guides, workbooks, digital resources, manipulatives

Topic 8
Content Area: Mathematics

Topic Title: Division Facts	14 days

Topic Components

21st Century Themes

Global Awareness	x	Financial, Economic, Business, and Entrepreneurial Literacy		Civic Literacy		Health Literacy		Environmental Literacy

21st Century Skills

	Creativity and Innovation	x	Critical Thinking and Problem Solving	X	Communication	x	Collaboration

Interdisciplinary Connections: Science, Social Studies, Physical Education, Writing

Integration of Technology: Digital Resources are part of this textbook series

Equipment needed: counters, balance scale
Topic Vocabulary:
- dividend
- divisor
- quotient
- variable

Goals/Objectives	Topic 8 Sequence	Formative Assessment Tasks
Students: •Use multiplication within 100 to solve word problems using measurement quantities by creating drawings or arrays. •Use multiplication within 100 to solve word problems modeled as	1. Review What You Know! 2. Interactive Learning 3. Relating Multiplication and Division 4. Fact Families with 2, 3, 4, and 5 5. Algebra Connections 6. Fact Families with 6 and 7 7. Fact Families with 8 and 9 8. Problem Solving: Multiple-Step Problems	• Teacher observation • Independent practice • Topic test • Performance task

equal groups or arrays by writing equations to	9. Making Sense of Multiplication and	

represent equal groups or arrays. •Determine the unknown in a division or multiplication equation with an unknown relating 3 whole numbers up to 100. •Recognize the Commutative, Associative, and Distributive Properties as strategies to add and multiply whole numbers. • Solve division of whole numbers by representing the problem as an unknown factor problem. •Fluently multiply and divide within 100, using the relationship between multiplication and division**.** •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.	Division Equations 10. Dividing with 0 and 1 11. Multiplication and Division Facts 12. Problem Solving: Draw a Picture and Write a Number Sentence 13. Algebra Connections 14. Reteaching 15. Topic 8 Test 16. Performance Task	

Differentiation

• differentiated worksheets/activities for each lesson
• leveled homework for each lesson
• reteaching resources at the end of each lesson

Resources Provided
● *enVision Math Common Core: Realize Edition* teacher's guides, workbooks, digital resources, manipulatives

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Unit Overview
Content Area: Mathematics
Unit Title: Number and Operations – Fractions
Target Course/Grade Level: Grade 3
Unit Summary Students develop an understanding of fractions, beginning with unit fractions. Students view fractions in general as being built out of unit fractions, and they use fractions along with visual fraction models to represent parts of a whole. Students understand that the size of a fractional part is relative to the size of the whole. For example, 1/2 of the paint in a small bucket could be less paint than 1/3 of the paint in a larger bucket, but 1/3 of a ribbon is longer than 1/5 of the same ribbon because when the ribbon is divided into 3 equal parts, the parts are longer than when the ribbon is divided into 5 equal parts. Students are able to use fractions to represent numbers equal to, less than, and greater than one. They solve problems that involve comparing fractions by using visual fraction models and strategies based on noticing equal numerators or denominators. *Source: The introduction to the Common Core Standard for Mathematics. Retrieved from http://www.corestandards.org/Math/Content/3/introduction/* **Primary interdisciplinary connections:** Science, Social Studies, Physical Education **21st century themes:** ● Critical Thinking/Problem Solving ● Communication ● Collaboration
Unit Rationale Although students come to the topic of fractions with an understanding of what it means to share, fractions present difficulties for many students. Using their own experiences, students build conceptual knowledge of how numbers relate, how to divide a whole, how to manipulate fractions and how to "express and picture the same quantities in a variety of ways." (McConnell, 2011) Geometric shapes are essential to many facets of our lives, from art to architecture. Learning the mathematical principles that are the basis for "creating, describing, classifying, and manipulating shapes can open up new world for students." (McConnell, 2011, p. 82).
Learning Targets
Standards ● 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*.

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- 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.
- 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, or the same point on a number line.
- 3.NF.A.3b Recognize and generate simple equivalent fractions, 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 of 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, e.g., by using a visual fraction model.
- 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 1/4 of the area of the shape.*
- 3.OA.C.7 Fluently multiply and divide within 100, using strategies such as the relationship between multiplication and division (e.g., knowing that 8 × 5 = 40, one knows 40 ÷ 5 = 8) or properties of operations. By the end of Grade 3, know from memory all products of two one-digit numbers.

Content Statements
- Develop understanding of fractions as numbers.
  - Understand a fraction as a number on the number line; represent fractions on a number line diagram.
  - Explain equivalence of fractions in special cases, and compare fractions by reasoning about their size.
- Reason with shapes and their attributes.
- Multiply and divide within 100.

Indicators	
3.NF.A.1	Understand a 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* parts *1/b;* e.g., 3 unit fractions of 1/4 add to the quantity 3/4.
3.NF.A.2a	Represent fraction *1/b* on the number line by by defining the interval 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.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 are equivalent if they are the same size or the same point on a number line.

| 3.NF.A.3b | Recognize and generate simple equivalent fractions and explain why the fractions are equivalent. |

	sub-groups as fourths).
3.NF.A.3c	Express whole numbers as fractions, and and recognize fractions that are equivalent to whole numbers
3.NF.A.3d	Compare two fractions with the same numerator or the same denominator by reasoning about their size. Recognize that comparisons are only valid when the two fractions refer to the same whole. Record result using the symbols >, =, <. and justify the conclusion by using a visula fraction model.
3.G.A.2	Partition shapes into equal parts with equal areas. Express the area of each part as a unit fraction of the whole. (e.g., a pizza cut into 8 equal slices has 8 slices and each slice has quantity 1/8 of the whole pizza).
3.OA.C.7	Fluently multiply and divide within 100, using strategies such as the relationship between multiplication and division.

Unit Essential Questions	Unit Enduring Understandings
- Topic 9 - What are different interpretations of a fraction? - Topic 10 - What are different ways to compare fractions?	- Computational fluency includes understanding the meaning and the appropriate use of numerical operations. - The magnitude of numbers affects the outcome of operations on them. - In many cases, there are multiple algorithms for finding a mathematical solution, and those algorithms are frequently associated with different cultures. - Context is critical when using estimation. - One representation may sometimes be more helpful than another; and, used together, multiple representations give a fuller understanding of a problem. - A quantity can be represented numerically in various ways. Problem solving depends upon choosing wise ways. - Numeric fluency includes both the understanding of and the ability to appropriately use numbers. **(source:** http://jaymctighe.com/wordpress/wp-content/uploads/2013/04/NEW-JERSEY-UbD-MAPS.pdf)

Unit Learning Targets

Students will ...

- 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* parts *1/b;* e.g., 3 unit fractions of 1/4 add to the quantity 3/4.
- 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 by dividing the number line between 0 & 1 into 4 equal lengths and naming the point at the end of the first length as the position of unit fraction *1/4*; apply the same method for locating the points 1/2, 1/3, 1/5, 1/6, and 1/8 on the number line.
- Make a drawing of a number line depicting a fraction *a/b* (with *a* < *b* and *b* = 2, 4, 3, 4, 6, or 8).
- Locate equivalent (equal) fractions on a number line (with denominators 2, 3, 4, 6, 8).
- 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).

- 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 >, =, <.
- Represent the equal parts of shapes as a unit fraction (e.g., a pizza cut into 8 equal slices has 8 slices and each slice has quantity 1/8 of the whole pizza).
- Fluently multiply and divide within 100, using the relationship between multiplication and division.

Evidence of Learning

Summative Assessment (at the end of each topic)

Each topic has a summative test and a performance task.

Teacher Resources:

enVision Math Common Core: Realize Edition. 2015

Formative Assessments

● teacher observation	· "Independent Practice"
● homework	· Topic performance task
● "Review What You Know"	·

Topics

Topic	Timeframe
Topic 9 *Understanding Fractions*	14 days
Topic 10 *Fraction Comparison and Equivalence*	14 days

Teacher Notes:

This unit consists of two topics from the enVision Math series with 8 lessons per topic. These two topics address the Number and Operations - Fraction domain of the Standards for Mathematics for Grade 3 students. In addition, these two topics address all eight of the Standards for Mathematical Practice.

Essential questions were taken directly from the textbook series used by the district, *enVision Math Common Core: Realize Edition.*

Enduring understandings were taken from *Overarching Understandings and Essential Questions (New Jersey)* at http://jaymctighe.com/resources/downloads/

Curriculum Development Resources

Click the links below to access additional resources used to design this unit:

NJDOE. "Model Curriculum: Mathematics (K-12) - Grade 3." Model Curriculum: Mathematics (K-12) - Grade 3. New Jersey Dept. of Education, n.d. Web. 27 June 2015.
<http://www.state.nj.us/education/modelcurriculum/math/1.shtml>.

Charles, Randall. *enVision Math Common Core*. Realize ed. Grade 1. Upper Saddle River: Pearson Education, 2015. Print. enVision Math

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McConnell, Carolyn. *The Essential Questions Handbook*. New York: Scholastic, 2011. Print.

Topic 9

Content Area:	Mathematics

Topic Title: Understanding Fractions	14 days

Topic Components

21st Century Themes

	Global Awareness	x	Financial, Economic, Business, and Entrepreneurial Literacy		Civic Literacy		Health Literacy		Environmental Literacy

21st Century Skills

	Creativity and Innovation	x	Critical Thinking and Problem Solving	X	Communication	x	Collaboration

Interdisciplinary Connections: Science, Social Studies, Physical Education, Writing

Integration of Technology: Digital Resources are part of this textbook series

Equipment needed: grid paper, crayons, fraction strips, number lines, two-color counters

Topic Vocabulary:
- halves
- thirds
- fourths
- fifths
- sixths
- eighths
- tenths
- twelfths
- fraction
- unit fraction
- denominator
- mixed numbers

Goals/Objectives	Topic 9 Sequence	Formative Assessment Tasks
Students: • 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* parts *1/b;* e.g., 3 unit fractions of 1/4 add to the quantity 3/4. • 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 by dividing the number line between 0 & 1 into 4 equal lengths and naming the point at the end of the first length as the position of unit fraction *1/4*; apply the same method for locating the points 1/2, 1/3, 1/5, 1/6, and 1/8 on the number line. • Make a drawing of a number line depicting a fraction *a/b* (with *a* < *b* and *b* = 2, 4, 3, 4, 6, or 8). • Represent the equal parts of shapes as a unit fraction (e.g., a pizza cut into 8 equal slices has 8 slices and each slice has quantity 1/8 of the whole	1. Review What You Know! 2. Interactive Learning 3. Dividing Regions into Parts 4. Fractions and Regions 5. Fractions and Sets 6. Fractional Parts of a Set 7. Fraction Number Lines 8. Locating Fractions on the Number Line 9. Fractions and Length 10. Problem Solving: Writing to Explain 11. Reteaching 12. Topic 9 Test 13. Performance Task	● Teacher observation ● Independent practice ● Topic test ● Performance task

pizza).		

Differentiation

- differentiated worksheets/activities for each lesson
- leveled homework for each lesson
- reteaching resources at the end of each lesson

Resources Provided
- *enVision Math Common Core: Realize Edition* teacher's guides, workbooks, digital resources, manipulatives

Topic 10
Content Area: Mathematics

Topic Title: Fraction Comparison and Equivalence	**14 days**

Topic Components

21st Century Themes

Global Awareness	x	Financial, Economic, Business, and Entrepreneurial Literacy		Civic Literacy		Health Literacy		Environmental Literacy

21st Century Skills

Creativity and Innovation	x	Critical Thinking and Problem Solving	x	Communication	x	Collaboration

Interdisciplinary Connections: Science, Social Studies, Physical Education, Writing

Integration of Technology: Digital Resources are part of this textbook series

Equipment needed: fraction strips, fraction tiles, number lines, fraction circles
Topic Vocabulary:
- equivalent fractions
- simplest form

Goals/Objectives	Topic 10 Sequence	Formative Assessment Tasks
Students: •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 by dividing	1. Review What You Know! 2. Interactive Learning 3. Using Models to Compare Fractions: Same Denominator 4. Using Models to Compare Fractions: Same Numerator 5. Using Fractions	● Teacher observation ● Independent practice ● Topic test ● Performance task

the number line between 0		

& 1 into 4 equal lengths and naming the point at the end of the first length as the position of unit fraction *1/4*; apply the same method for locating the points 1/2, 1/3, 1/5, 1/6, and 1/8 on the number line. •Locate equivalent (equal) fractions on a number line (with denominators 2, 3, 4, 6, 8). •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). •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 >, =, <. •Fluently multiply and divide within 100, using the relationship between multiplication and division**.**	6. Comparing Fractions on the Number Line 7. Finding Equivalent Fractions 8. Enrichment 9. Equivalent Fractions and the Number Line 10. Whole Numbers and Fractions 11. Problem Solving: Draw a Picture 12. Reteaching 13. Topic 10 Test 14. Performance Task	

Differentiation

• differentiated worksheets/activities for each lesson
• leveled homework for each lesson
• reteaching resources at the end of each lesson

Resources Provided

- *enVision Math Common Core: Realize Edition* teacher's guides, workbooks, digital resources, manipulatives

Unit Overview

Content Area: Mathematics

Unit Title: Geometry

Target Course/Grade Level: Grade 3

Unit Summary

Students describe, analyze, and compare properties of two-dimensional shapes. They compare and classify shapes by their sides and angles, and connect these with definitions of shapes. Students also relate their fraction work to geometry by expressing the area of part of a shape as a unit fraction of the whole.

Source: The introduction to the Common Core Standard for Mathematics. Retrieved from http://www.corestandards.org/Math/Content/3/introduction/

Primary interdisciplinary connections: Science, Social Studies, Physical Education

21st century themes:

- Critical Thinking/Problem Solving
- Communication
- Collaboration

Unit Rationale

Geometric shapes are essential to many facets of our lives, from art to architecture. Learning the mathematical principles that are the basis for "creating, describing, classifying, and manipulating shapes can open up new world for students." (McConnell, 2011, pg 82).

Learning Targets

Standards

- 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.OA.D.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.MD.C.7a 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.MD.C.7d 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.

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Content Statements
- Reason with shapes and their attributes.
- Solve problems involving the four operations, and identify and explain patterns in arithmetic.
- Geometric measurement: understand concepts of area and relate area to multiplication and to addition.

CPI #	Cumulative Progress Indicator (CPI) from NJDOE Model Curriculum
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.OA.D.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.MD.C.7a	Find the area of a rectangular array by counting the number of square units and compare that number with the product of the (whole number) side lengths.
3.MD.C.7d	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.

Unit Essential Questions	Unit Enduring Understandings
● Topic 11 　○ How can two-dimensional shapes be described, analyzed, and classified?	● Geometric properties can be used to construct geometric figures. ● Geometric relationships provide a means to make sense of a variety of phenomena. ● Everyday objects have a variety of attributes, each of which can be measured in many ways. ● What we measure affects how we measure it. ● Measurements can be used to describe, compare, and make sense of phenomena. ● Mathematical models can be used to describe and quantify physical relationships. ● Physical models can be used to clarify mathematical relationships. **(source:** http://jaymctighe.com/wordpress/wp-content/uploads/2013/04/NEW-JERSEY-UbD-MAPS.pdf **)**

Unit Learning Targets

Students will ...

- 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.

- 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.
- Find the area of a rectangular array by counting the number of square units and compare that number with the product of the (whole number) side lengths.
- 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.

Evidence of Learning

Summative Assessment (at the end of each topic)
Each topic has a summative test and a performance task.

Teacher Resources:
enVision Math Common Core: Realize Edition. 2015

Formative Assessments

- teacher observation
- homework
- "Review What You Know"

· "Independent Practice"
· Topic performance task
·

Topics

Topic	Timeframe
Topic 11 *Two-Dimensional Shapes and Their Attributes*	14 days

Teacher Notes:
This unit consists of one topic from the enVision Math Common Core series with 5 lessons. This one topics addresses the Geometry domain standards for Mathematics for Grade 3 students. In addition, this topic addresses all eight of the Standards for Mathematical Practice.

Essential questions were taken directly from the textbook series used by the district, *enVision Math: Realize Edition.*

Enduring understandings were taken from *Overarching Understandings and Essential Questions (New Jersey)* at
http://jaymctighe.com/resources/downloads/

Curriculum Development Resources

Click the links below to access additional resources used to design this unit:

NJDOE. "Model Curriculum: Mathematics (K-12) - Grade 3." Model Curriculum: Mathematics (K-12) - Grade 3. New Jersey Dept. of Education, n.d. Web. 27 June 2015.
<http://www.state.nj.us/education/modelcurriculum/math/1.shtml>.

Charles, Randall. enVision Math. Realize ed. Grade 1. Upper Saddle River: Pearson Education, 2015. Print. enVision Math

http://www.nj.gov/education/aps/cccs/math/

McConnell, Carolyn. *The Essential Questions Handbook*. New York: Scholastic, 2011. Print.

Topic 11	
Content Area: Mathematics	
Topic Title: Two-Dimensional Shapes and Their Attributes	**14 days**

Topic Components

21st Century Themes

	Global Awareness	x	Financial, Economic, Business, and Entrepreneurial Literacy		Civic Literacy		Health Literacy		Environmental Literacy

21st Century Skills

	Creativity and Innovation	x	Critical Thinking and Problem Solving	x	Communication	x	Collaboration

Interdisciplinary Connections: Science, Social Studies, Physical Education, Writing

Integration of Technology: Digital Resources are part of this textbook series

Equipment needed: dot paper

Topic Vocabulary:
- polygon
- side
- vertex
- diagonal
- triangle
- quadrilateral
- Pentagon
- Hexagon
- Octagon
- Decagon
- parallel sides
- Parallelogram
- Rectangle
- right angles
- rhombus
- square

Goals/Objectives	Topic 11 Sequence	Formative Assessment Tasks
Students: •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. •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. •Find the area of a rectangular array by counting the number of square units and compare that number with the product of the (whole number) side lengths. •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	1. Review What You Know! 2. Interactive Learning 3. Polygons 4. Mixed Problem Solving 5. Quadrilaterals 6. Classifying Shapes 7. Problem Solving: Make and Test Generalizations 8. Problem Solving: Solve a Simpler Problem 9. Reteaching 10. Topic 11 Test 11. Performance Task	• Teacher observation • Independent practice • Topic test • Performance task

solve real world problems.		

Differentiation

• differentiated worksheets/activities for each lesson
• leveled homework for each lesson
• reteaching resources at the end of each lesson

Resources Provided
● *enVision Math Common Core: Realize Edition* teacher's guides, workbooks, digital resources, manipulatives

Unit Overview
Content Area: Mathematics
Unit Title: Measurement and Data
Target Course/Grade Level: Grade 3
Unit Summary Students recognize area as an attribute of two-dimensional regions. They measure the area of a shape by finding the total number of same-size units of area required to cover the shape without gaps or overlaps, a square with sides of unit length being the standard unit for measuring area. Students understand that rectangular arrays can be decomposed into identical rows or into identical columns. By decomposing rectangles into rectangular arrays of squares, students connect area to multiplication, and justify using multiplication to determine the area of a rectangle. Students also solve problems with money, metric length, mass, and liquid volume, create bar graphs and line plots. Students also solve problems with customary units of length, weight and capacity. Students investigate angles as parts of geometric shapes. **Primary interdisciplinary connections:** Science, Social Studies, Physical Education **21st century themes:** ● Critical Thinking/Problem Solving ● Communication ● Collaboration

Unit Rationale

A firm grounding in the big picture of how operations with numbers interrelate and how they are vital tools in life can help students build the positive attitudes that will help them become confident, efficient, and effective problem-solvers (McConnell, 2011)

An accurate and consistent system of measurement is a foundation of our economy and necessary for interaction with others around the globe. Systems of measurement facilitate communication in all aspects of life. (McConnell, 2011)

Geometric shapes are essential to many facets of our lives, from art to architecture. Learning the mathematical principles that are the basis for "creating, describing, classifying, and manipulating shapes can open up new world for students." (McConnell, 2011, pg 82).

Learning Targets

Standards

- 3.MD.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.MD.A.2 Measure and estimate liquid volumes and masses of objects using standard units of grams (g), kilograms (kg), and liters (l).1 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.
- 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. *For example, draw a bar graph in which each square in the bar graph might represent 5 pets*.
- 3.MD.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.
- 3.MD.C.5a 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.MD.C.5b 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.MD.C.6 Measure areas by counting unit squares (square cm, square m, square in, square ft, and improvised units).
- 3.MD.C.7a 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.MD.C.7b 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.MD.C.7c 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* × *b* and *a* × *c*. Use area models to represent the distributive property in mathematical reasoning.
- 3.MD.C.7d 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.

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- 3.MD.D.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.
- 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.1
- 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 1/4 of the area of the shape.*

Content Statements

- Solve problems involving measurement and estimation.
- Represent and interpret data.
- Geometric measurement: understand concepts of area and relate area to multiplication and to addition.
- Geometric measurement: recognize perimeter.
- Represent and solve problems involving multiplication and division.
- Reason with shapes and their attributes.

CPI #	Cumulative Progress Indicator (CPI) from NJDOE Model Curriculum
3.MD.A.1	Tell and write time to the nearest minute to solve word problems with addition and subtraction involving time intervals in minutes.
3.MD.A.2	Measure and estimate liquid volumes and masses of objects using standard units of grams (g), kilograms (kg), and liters (l).1 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.
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. *For example, draw a bar graph in which each square in the bar graph might represent 5 pets.*
3.MD.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.
3.MD.C.5a	A square with side length 1 unit called "a square unit" is said to have "one square unit" of area and can be used to measure area.
3.MD.C.5b	A plane figure which can be covered without gaps or overlaps by n unit square is said to have an area of n square units.
3.MD.C.6	Measure areas by counting unit squares (square cm, square m, square in, square ft, and improvised units).
3.MD.C.7a	Find the area of a rectangular array by counting the number of square units and compare that number with the product of the (whole number) side lengths.
3.MD.C.7b	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 regualr areas in math reasoning.
3.MD.C.7c	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 x b and a x c. Use area models to represent the distributive property in math reasoning.
3.MD.C.7d	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.MD.D.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.
3.OA.A.3	•Use multiplication within 100 to solve word problems using measurement quantities by creating drawings or arrays. •Use multiplication within 100 to solve word problems modeled as equal groups or arrays by writing equations to represent equal groups or arrays.
3.G.A.2	Represent the equal parts of shapes as a unit fraction (e.g., a pizza cut into 8 equal slices has 8 slices and each slice has quantity 1/8 of the whole pizza).

Unit Essential Questions	Unit Enduring Understandings
- Topic 12 - How can lengths of time be measured and found? - Topic 13 - How can perimeter be measured and found? - Topic 14 - What does area mean? - What are different ways to find the area of a shape? - Topic 15 - What are the metric units for measuring capacity and mass? - Topic 16 - How can data be represented, interpreted, and analyzed?	- Geometric properties can be used to construct geometric figures. - Geometric relationships provide a means to make sense of a variety of phenomena. - Everyday objects have a variety of attributes, each of which can be measured in many ways. - What we measure affects how we measure it. - Measurements can be used to describe, compare, and make sense of phenomena. - Mathematical models can be used to describe and quantify physical relationships. - Physical models can be used to clarify mathematical relationships. **(source:** http://jaymctighe.com/wordpress/wp-content/uploads/2013/04/NEW-JERSEY-UbD-MAPS.pdf **)**

Unit Learning Targets

Students will ...

- Tell and write time to the nearest minute to solve word problems with addition and subtraction involving time intervals in minutes.

- 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.

- Find the area of a plane figure understanding that unit squares are used to measure area of a rectilinear drawing.

- Measure areas by counting unit squares (square cm, square m, square in, square ft, and improvised units).

- Explain the relationship between tiling/multiplying side lengths to find the area of rectangles.

- Use the area model (with rectangles) to explain the Distributive Property.

- 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.

- Use multiplication within 100 to solve word problems modeled as equal groups or arrays by writing equations to represent equal groups or arrays.

- Use multiplication within 100 to solve word problems using measurement quantities by creating

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drawings or arrays.
- Represent the equal parts of shapes as a unit fraction (e.g., a pizza cut into 8 equal slices has 8 slices and each slice has quantity 1/8 of the whole pizza).
- Solve one-step word problems by estimating, measuring, and comparing liquid volumes and masses using appropriate tools and units.
- Create and interpret a scaled picture (or bar) graph to represent data in 1- or 2-stp word problems.
- Depict data measured in fourths and halves of an inch with a line plot with scales marked with appropriate units.

Evidence of Learning

Summative Assessment (at the end of each topic)

Each topic has a summative test and a performance task.

Teacher Resources:

enVision Math Common Core: Realize Edition. 2015

Formative Assessments

- teacher observation
- homework
- "Review What You Know"

· "Independent Practice"
· Topic performance task
·

Topics

Topic	Timeframe
Topic 12 *Two-Dimensional Shapes and Their Attributes*	14 days
Topic 13 *Perimeter*	14 days
Topic 14 *Area*	14 days
Topic 15 *Liquid Volume and Mass*	14 days
Topic 16 *Data*	14 days

Teacher Notes:

This unit consists of five topics from the enVision Math series with 4-11 lessons per topic. These five topics address the Measurement and Data standards for Mathematics for Grade 3 students. In addition, these five topics address all eight of the Standards for Mathematical Practice.

Essential questions were taken directly from the textbook series used by the district, *enVision Math: Realize Edition.*

Enduring understandings were taken from *Overarching Understandings and Essential Questions (New Jersey)* at http://jaymctighe.com/resources/downloads/

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Curriculum Development Resources

Click the links below to access additional resources used to design this unit:

NJDOE. "Model Curriculum: Mathematics (K-12) - Grade 3." Model Curriculum: Mathematics (K-12) - Grade 3. New Jersey Dept. of Education, n.d. Web. 27 June 2015. <http://www.state.nj.us/education/modelcurriculum/math/1.shtml>.

Charles, Randall. enVision Math Common Core. Realize ed. Grade 1. Upper Saddle River: Pearson Education, 2015. Print. enVision Math Common Core

McConnell, Carolyn. *The Essential Questions Handbook*. New York: Scholastic, 2011. Print.

Topic 12	
Content Area: Mathematics	
Topic Title: Time	**14 days**
Topic Components	

21st Century Themes								
	Global Awareness	x	Financial, Economic, Business, and Entrepreneurial Literacy		Civic Literacy		Health Literacy		Environmental Literacy

21st Century Skills							
	Creativity and Innovation	x	Critical Thinking and Problem Solving	x	Communication	x	Collaboration

Interdisciplinary Connections: Science, Social Studies, Physical Education, Writing

Integration of Technology: Digital Resources are part of this textbook series

Equipment needed: clock models

Topic Vocabulary:
- hour
- half hour
- quarter hour
- minute
- seconds
- A.M.
- P.M.
- elapsed time

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Goals/Objectives	Topic 12 Sequence	Formative Assessment Tasks
Students: Tell and write time to the nearest minute to solve word problems with addition and subtraction involving time intervals in minutes.	1. Review What You Know! 2. Interactive Learning 3. Time to the Half Hour and Quarter Hour 4. Time to the Minute 5. Elapsed Time 6. Problem Solving: Work Backward 7. Reteaching 8. Topic 12 Test 9. Performance Task	● Teacher observation ● Independent practice ● Topic test ● Performance task

Differentiation

• differentiated worksheets/activities for each lesson
• leveled homework for each lesson
• reteaching resources at the end of each lesson

Resources Provided
● *enVision Math Common Core: Realize Edition* teacher's guides, workbooks, digital resources, manipulatives

Topic 13
Content Area: Mathematics

Topic Title: Perimeter	**14 days**

Topic Components

21st Century Themes

Global Awareness	x	Financial, Economic, Business, and Entrepreneurial Literacy		Civic Literacy		Health Literacy		Environmental Literacy

21st Century Skills

Creativity and Innovation	x	Critical Thinking and Problem Solving	x	Communication	x	Collaboration

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Interdisciplinary Connections: Science, Social Studies, Physical Education, Writing
Integration of Technology: Digital Resources are part of this textbook series
Equipment needed: grid paper, fraction strips   **Topic Vocabulary:**   • perimeter

Goals/Objectives	Topic 13 Sequence	Formative Assessment Tasks
Students: 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.	1. Review What You Know! 2. Interactive Learning 3. Understanding Perimeter 4. Perimeter of Common Shapes 5. Perimeter and Unknown Side Lengths 6. Different Shapes with the Same Perimeter 7. Problem Solving: Solve a Simpler Problem and Make a Table 8. Reteaching 9. Topic 13 Test 10. Performance Task	• Teacher observation • Independent practice • Topic test • Performance task

Differentiation   • differentiated worksheets/activities for each lesson   • leveled homework for each lesson   • reteaching resources at the end of each lesson
Resources Provided   • *enVision Math Common Core: Realize Edition* teacher's guides, workbooks, digital resources, manipulatives

Topic 14	
Content Area: Mathematics	
Topic Title: Area	**14 days**
Topic Components	

21st Century Themes

Global Awareness	x	Financial, Economic, Business, and Entrepreneurial Literacy		Civic Literacy		Health Literacy		Environmental Literacy

21st Century Skills

Creativity and Innovation	x	Critical Thinking and Problem Solving	X	Communication	x	Collaboration

Interdisciplinary Connections: Science, Social Studies, Physical Education, Writing

Integration of Technology: Digital Resources are part of this textbook series

Equipment needed: grid paper, square tiles
Topic Vocabulary:
- area
- square unit

Goals/Objectives	Topic 14 Sequence	Formative Assessment Tasks
Students: •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. •Find the area of a plane figure understanding that unit squares are used to measure area of a rectilinear drawing. •Measure areas by	1. Review What You Know! 2. Interactive Learning 3. Covering Regions 4. Area and Units 5. Standard Units 6. Area of Squares and Rectangles 7. Area and the Distributive Property 8. Problem Solving: Solve a Simpler Problem 9. Area of Irregular Shapes 10. Stop and Practice 11. Different Area, Same Perimeter 12. Same Area, Different Perimeter 13. Equal Areas and Fractions 14. Problem Solving: Selecting Appropriate Measurement Units and Tools 15. Reteaching 16. Topic 14 Test	• Teacher observation • Independent practice • Topic test • Performance task

| counting unit squares | 17. Performance Task | |

(square cm, square m, square in, square ft, and improvised units). •Explain the relationship between tiling/multiplying side lengths to find the area of rectangles. •Use the area model (with rectangles) to explain the Distributive Property. •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. •Use multiplication within 100 to solve word problems using measurement quantities by creating drawings or arrays. •Use multiplication within 100 to solve word problems modeled as equal groups or arrays by writing equations to represent equal groups or arrays. •Represent the equal parts of shapes as a unit fraction.		

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Differentiation

• differentiated worksheets/activities for each lesson

• leveled homework for each lesson

• reteaching resources at the end of each lesson

Resources Provided

● *enVision Math Common Core: Realize Edition* teacher's guides, workbooks, digital resources, manipulatives

Topic 15
Content Area: Mathematics

Topic Title: Liquid Volume and Mass	**14 days**

Topic Components

21st Century Themes

Global Awareness	x	Financial, Economic, Business, and Entrepreneurial Literacy		Civic Literacy		Health Literacy		Environmental Literacy

21st Century Skills

	Creativity and Innovation	x	Critical Thinking and Problem Solving	x	Communication	x	Collaboration

Interdisciplinary Connections: Science, Social Studies, Physical Education, Writing

Integration of Technology: Digital Resources are part of this textbook series

Equipment needed: measuring containers, balance scale, weights

Topic Vocabulary:

● milliliter

● liter

● mass

● gram

● kilogram

Goals/Objectives	Topic 15 Sequence	Formative Assessment Tasks

Students: Solve one-step word problems by estimating, measuring, and comparing liquid volumes and	1. Review What You Know! 2. Interactive Learning 3. Metric Units of Capacity 4. Measuring Capacity	● Teacher observation ● Independent practice ● Topic test ● Performance task

| masses using appropriate tools and units. | 5. Units of Mass
6. Measuring Mass
7. Problem Solving: Draw a Picture
8. Reteaching
9. Topic 15 Test
10. Performance Task | |

Differentiation

• differentiated worksheets/activities for each lesson
• leveled homework for each lesson
• reteaching resources at the end of each lesson

Resources Provided
● *enVision Math Common Core: Realize Edition* teacher's guides, workbooks, digital resources, manipulatives

Topic 16		
Content Area: Mathematics		
Topic Title: Data		**14 days**
Topic Components		
21st Century Themes		

Global Awareness	x	Financial, Economic, Business, and Entrepreneurial Literacy		Civic Literacy		Health Literacy		Environmental Literacy

21st Century Skills							
Creativity and Innovation	x	Critical Thinking and Problem Solving	x	Communication	x	Collaboration	

Interdisciplinary Connections: Science, Social Studies, Physical Education, Writing

Integration of Technology: Digital Resources are part of this textbook series

Equipment needed: blank line plots, blank bar graph paper
Topic Vocabulary:
- line plot
- pictograph

Goals/Objectives	Topic 16 Sequence	Formative Assessment Tasks
Students: •Create and interpret a scaled picture (or bar) graph to represent data in 1- or 2-stp word problems. •Depict data measured in fourths and halves of an inch with a line plot with scales marked with appropriate units.	1. Review What You Know! 2. Interactive Learning 3. Metric Units of Capacity 4. Measuring Capacity 5. Units of Mass 6. Measuring Mass 7. Problem Solving: Draw a Picture 8. Reteaching 9. Topic 15 Test 10. Performance Task	• Teacher observation • Independent practice • Topic test • Performance task

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Differentiation

• differentiated worksheets/activities for each lesson
• leveled homework for each lesson
• reteaching resources at the end of each lesson

Resources Provided
● *enVision Math Common Core: Realize Edition* teacher's guides, workbooks, digital resources, manipulatives

LESSON

REFLECTION

Reflect on the lesson you have developed and rate the degree to which the lesson *Strongly, Moderately* or *Weakly* meets the criteria below.

Lesson Activities:	Strongly	Moderately	Weakly
Are challenging and require higher order thinking and problem solving skills			
Allow for student choice			
Provide scaffolding for acquiring targeted knowledge/skills			
Integrate global perspectives			
Integrate 21st century skills			
Provide opportunities for interdisciplinary connection and transfer of knowledge and skills			
Foster student use of technology as a tool to develop critical thinking, creativity and innovation skills			
Are varied to address different student learning styles and preferences			

Are differentiated based on student needs			

Are student-centered with teacher acting as a facilitator and co-learner during the teaching and learning process			
Provide means for students to demonstrate knowledge and skills and progress in meeting learning goals and objectives			
Provide opportunities for student reflection and self-assessment			
Provide data to inform and adjust instruction to better meet the varying needs of learners			

Curriculum Design Template	
Content Area:	
Course Title:	**Grade Level:**
Unit Plan 1	Pacing Guide
Unit Plan 1	Pacing Guide
Unit Plan 3	Pacing Guide
Unit Plan 4	Pacing Guide

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Unit Plan 5	Pacing Guide
Unit Plan 6	Pacing Guide

Date Created:

Board Approved on: