Mine Hill Township School District

(K/Math)

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Approval date:
October 26, 2020

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Mine Hill Township School District
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Subject Area: _____Math_____	
Grade Level: Kindergarten	Brief Summary of Unit: Objects can be classified by their attributes. Computation helps us find answers by using mathematics or logic. Shapes have and can be identified by similar and different attributes.
Unit: Attributes and Basic Computations	

Content/Objective	Standards	Skills-SWBAT	Suggested Activities	Suggested Assessments	Pacing Guide
● Addition is putting together and adding to, and subtraction is taking apart and taking from. ● Numbers have different values. ● Shapes come in a variety of contexts. ● Objects can be sorted into categories by their attributes. ● Counting is to count by "one more" is a strategy to help us	K.MD.1, 3 K.G.1,2,4 K.CC.2, 3, 4a-c,5,6 K.OA.1, 2, 3, 4	● Use concrete, nonverbal experiences to develop an understanding of addition and subtraction. ● Compare two numbers to determine which has the higher or lower value. ● Design shape collages from pictures of real world objects. (curved, straight, corner, side, etc.) ● Convince classmates that members of the same shape category can look quite different. Examine, describe, and compare a variety of shapes. (size, shape, color, type, etc.) ● Add on to a given number by one more. ● Demonstrate a given number using ten frames.	● Count and add dots on dominoes ● Use manipulative on 10-frame work mat to make numbers adding and subtracting- **critical thinking and problem solving** ● Order number cards ● practice adding by moving manipulatives from one group to another ● Practice writing addition and subtraction problems on whiteboards ● Partner problems- **communication and collaboration** ● Dice throw addition ● Word problems- **media literacy** ● Count sets to determine more and less ● Identify solid and plane shapes using manipulatives ● Find shapes around the classroom	● Teacher Observation of completion of task (formative) ● ability to demonstrate concepts (formative) ● running records (summative) ● My First Math Journal workbook pages **(Benchmark assessment)**	8 weeks (May-June)

efficiently count large numbers. ● Numbers can be composed (put together) and decomposed (taken apart). ● Number stories provide a valuable context for children to develop problem solving skills and build a solid understanding of addition and subtraction.		● Draw, count fingers, or use concrete objects to solve a number story. ● Represent the process of solving a word problem (i.e. acting out, modeling, using counters, and drawing). ● Collaborate and share solution strategies to grow more sophisticated methods to solve a problem.	● create shapes using popsicle sticks, pipe cleaners etc…**- creativity and innovation**		

Integrated Components

21st Century Themes	_____ Global Awareness __x___Financial, Economic, Business, and Entrepreneurial Literacy _____ Civic Literacy _____ Health literacy
21st Century Skills	_____ Creativity and Innovation ___x__ Critical Thinking and Problem Solving ___x__ Communication and Collaboration _____ Information Literacy ____x__ Media Literacy _____Life and Career Skills
Interdisciplinary Connections	**ELA- NJSLSA.R1.:** Students must be able to read and understand math activities. .Reading "A Pocket for Corduroy," students must understand story. **NJSLSA.R7:** Students must be able to to evaluate content from different areas, from text to videos and games.
Integration of Technology	**Technology Standards**: **8.1.2.A.4:** Students be able to navigate online games and songs, Smartboard games, and EDM games
Resources	For Teachers: Everyday Math 4 & Supplemental Component Minute Math Book Math Master

	Song about adding by "one more" https://www.youtube.com/watch?v=INHYb1RNaMM&list=UUNTakNQwoAqVtPSORzswT_A Mentor Text: **A Pocket for Corduroy by Don Freeman** For Students: number grid, manipulatives, My First Math Journal
Integrated Accommodations and Modifications	Modifications for Special Ed./504/At-Risk students : anchor charts, various manipulatives , simplified questions, fewer problems Modifications for ELL students: anchor charts, various manipulatives, simplified questions, fewer problems, small groups and one on one Modifications for Gifted and Talented students: peer tutoring, find shapes at home, find more advanced shapes in classroom and at home

Subject Area: _____Math_____	
Grade Level:Kindergarten	Brief Summary of Unit: Numbers can be decomposed in various combinations.Place value is used to decompose and understand the value of a number. Symbols need to be used in a number sentence.
Unit: Decomposing Numbers	

Content/Objective	**Standards**	**Skills – SWBAT**	**Suggested Activities**	**Suggested Assessments**	**Pacing Guide**
● Numbers less than or equal to 10 can be decomposed into pairs in more than one way. ● A plus sign and equal sign are used to write a number sentence. ● Numbers 11-20 are composed of a ten and ones. ● Computations can be done in various ways. ● Two addends equal a sum.	K.MD.1,2 K.G.1,2 K.G.A.1,2, K.G.B.4,5,6 K.CC.1,2,3, 5,6 K.OA.1,2,3,4, K.NBT.1	● Record each decomposition by a drawing or equation (e.g. 5 = 2 + 3 and 5 = 4 + 1). ● Show ways to create the same total (up to at least 10) with two addends using objects or drawings, and record the equations. ● Use number stories to create addition problems using a both a + sign and = sign. ● Create numbers using representatives (e.g., ten frames, fingers, and manipulatives). ● Solve number stories using various strategies and means of determining the answer.	● Addition and subtraction practice sheets ● Domino number match ● Five and ten frame practice sheets - **Critical Thinking and problem solving** ● Anchor charts and individual reference sheets ● Number sentences ● Partner Practice on five and ten frames-**Communication and Collaboration**	● Teacher observation of ability to complete task (formative) ● Facilitation Grid ● Running Records (summative) ● Practice Sheets **(Benchmark Assessment)**	4 weeks (October) 4 weeks (December)

		• Justify, or "prove" solutions by utilizing parts-and-total and change-to-more number stories. • Verbalize understanding of addition through use of the term sum. • Express an understanding of the process of addition with words, numbers, and/or sketches.			

Integrated Components

21st Century Themes	**_____** Global Awareness _____Financial, Economic, Business, and Entrepreneurial Literacy _____ Civic Literacy _____ Health literacy
21st Century Skills	_____ Creativity and Innovation __x___ Critical Thinking and Problem Solving __x___ Communication and Collaboration _____ Information Literacy ____x__ Media Literacy _____Life and Career Skills
Interdisciplinary Connections	**NJSLSA.R1.:** Students must be able to read and understand math activities and books about 100. **NJSLSA.R7:** Students must be able to to evaluate content from different areas, from text to videos and games.
Integration of Technology	**Technology Standards**: **8.1.2.A.4:** Students be able to navigate online games and songs, Smartboard games, and EDM games
Resources	For Teachers: Everyday Math 4 & Supplemental Components Minute Math Book Math Master My First Math Book Books about 100 (any books you have in your library) Groups of ten song (teen numbers) https://www.youtube.com/watch?v=uedvwH6Ay18&index=17&list=UUNTakNQwoAqVtPSORzswT_A Addition song https://www.youtube.com/watch?v=WT_wvvEvkw4&index=20&list=UUNTakNQwoAqVtPSORzswT_A Teen Number Song (teens start with the number 1) https://www.youtube.com/watch?v=1W5aYi3lkho&list=UUNTakNQwoAqVtPSORzswT_A&index=29

	For Students: Manipulatives, My First Math Book,
Integrated Accommodations and Modifications	Modifications for Special Ed. students/504/ At-risk student : various manipulatives, charts, small group, 1:1 Modifications for ELL students: various manipulatives, charts, small group, 1:1 Modifications for Gifted and Talented students: peer tutoring, show more advanced number sentences with pictures.

Subject Area: _____Math_____	
Grade Level:Kindergarten	Brief Summary of Unit: Numbers can be decomposed in various combinations.Place value is used to decompose and understand the value of a number. Symbols need to be used in a number sentence.
Unit: Decomposing Numbers	

Content/Objective	**Standards**	**Skills – SWBAT**	**Suggested Activities**	**Suggested Assessments**	**Pacing Guide**
● Numbers less than or equal to 10 can be decomposed into pairs in more than one way. ● A plus sign and equal sign are used to write a number sentence. ● Numbers 11-20 are composed of a ten and ones. ● Computations can be done in various ways. ● Two addends equal a sum.	K.MD.1,2 K.G.1,2 K.G.A.1,2, K.G.B.4,5,6 K.CC.1,2,3, 5,6 K.OA.1,2,3,4, K.NBT.1	● Record each decomposition by a drawing or equation (e.g. 5 = 2 + 3 and 5 = 4 + 1). ● Show ways to create the same total (up to at least 10) with two addends using objects or drawings, and record the equations. ● Use number stories to create addition problems using a both a + sign and = sign. ● Create numbers using representatives (e.g., ten frames, fingers, and manipulatives). ● Solve number stories using various strategies and means of determining the answer.	● Addition and subtraction practice sheets ● Domino number match ● Five and ten frame practice sheets - **Critical Thinking and problem solving** ● Anchor charts and individual reference sheets ● Number sentences ● Partner Practice on five and ten frames-**Communication and Collaboration**	● Teacher observation of ability to complete task (formative) ● Facilitation Grid ● Running Records (summative) ● Practice Sheets **(Benchmark Assessment)**	4 weeks (October) 4 weeks (December)

		• Justify, or "prove" solutions by utilizing parts-and-total and change-to-more number stories. • Verbalize understanding of addition through use of the term sum. • Express an understanding of the process of addition with words, numbers, and/or sketches.			

Integrated Components

21st Century Themes	**_____** Global Awareness _____Financial, Economic, Business, and Entrepreneurial Literacy _____ Civic Literacy _____ Health literacy
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Resources	For Teachers: Everyday Math 4 & Supplemental Components Minute Math Book Math Master My First Math Book Books about 100 (any books you have in your library) Groups of ten song (teen numbers) https://www.youtube.com/watch?v=uedvwH6Ay18&index=17&list=UUNTakNQwoAqVtPSORzswT_A Addition song https://www.youtube.com/watch?v=WT_wvvEvkw4&index=20&list=UUNTakNQwoAqVtPSORzswT_A Teen Number Song (teens start with the number 1) https://www.youtube.com/watch?v=1W5aYi3lkho&list=UUNTakNQwoAqVtPSORzswT_A&index=29

	For Students: Manipulatives, My First Math Book,
Integrated Accommodations and Modifications	Modifications for Special Ed. students/504/ At-risk student : various manipulatives, charts, small group, 1:1 Modifications for ELL students: various manipulatives, charts, small group, 1:1 Modifications for Gifted and Talented students: peer tutoring, show more advanced number sentences with pictures.

Subject Area: _____Math_____	
Grade Level:Kindergarten	Brief Summary of Unit: Numbers can be decomposed in various combinations.Place value is used to decompose and understand the value of a number. Symbols need to be used in a number sentence.
Unit: Decomposing Numbers	

Content/Objective	**Standards**	**Skills – SWBAT**	**Suggested Activities**	**Suggested Assessments**	**Pacing Guide**
● Numbers less than or equal to 10 can be decomposed into pairs in more than one way. ● A plus sign and equal sign are used to write a number sentence. ● Numbers 11-20 are composed of a ten and ones. ● Computations can be done in various ways. ● Two addends equal a sum.	K.MD.1,2 K.G.1,2 K.G.A.1,2, K.G.B.4,5,6 K.CC.1,2,3, 5,6 K.OA.1,2,3,4, K.NBT.1	● Record each decomposition by a drawing or equation (e.g. 5 = 2 + 3 and 5 = 4 + 1). ● Show ways to create the same total (up to at least 10) with two addends using objects or drawings, and record the equations. ● Use number stories to create addition problems using a both a + sign and = sign. ● Create numbers using representatives (e.g., ten frames, fingers, and manipulatives). ● Solve number stories using various strategies and means of determining the answer.	● Addition and subtraction practice sheets ● Domino number match ● Five and ten frame practice sheets - **Critical Thinking and problem solving** ● Anchor charts and individual reference sheets ● Number sentences ● Partner Practice on five and ten frames-**Communication and Collaboration**	● Teacher observation of ability to complete task (formative) ● Facilitation Grid ● Running Records (summative) ● Practice Sheets **(Benchmark Assessment)**	4 weeks (October) 4 weeks (December)

		• Justify, or "prove" solutions by utilizing parts-and-total and change-to-more number stories. • Verbalize understanding of addition through use of the term sum. • Express an understanding of the process of addition with words, numbers, and/or sketches.			

Integrated Components

21st Century Themes	**_____** Global Awareness _____Financial, Economic, Business, and Entrepreneurial Literacy _____ Civic Literacy _____ Health literacy
21st Century Skills	_____ Creativity and Innovation __x___ Critical Thinking and Problem Solving __x___ Communication and Collaboration _____ Information Literacy ____x__ Media Literacy _____Life and Career Skills
Interdisciplinary Connections	**NJSLSA.R1.:** Students must be able to read and understand math activities and books about 100. **NJSLSA.R7:** Students must be able to to evaluate content from different areas, from text to videos and games.
Integration of Technology	**Technology Standards**: **8.1.2.A.4:** Students be able to navigate online games and songs, Smartboard games, and EDM games
Resources	For Teachers: Everyday Math 4 & Supplemental Components Minute Math Book Math Master My First Math Book Books about 100 (any books you have in your library) Groups of ten song (teen numbers) https://www.youtube.com/watch?v=uedvwH6Ay18&index=17&list=UUNTakNQwoAqVtPSORzswT_A Addition song https://www.youtube.com/watch?v=WT_wvvEvkw4&index=20&list=UUNTakNQwoAqVtPSORzswT_A Teen Number Song (teens start with the number 1) https://www.youtube.com/watch?v=1W5aYi3lkho&list=UUNTakNQwoAqVtPSORzswT_A&index=29

	For Students: Manipulatives, My First Math Book,
Integrated Accommodations and Modifications	Modifications for Special Ed. students/504/ At-risk student : various manipulatives, charts, small group, 1:1 Modifications for ELL students: various manipulatives, charts, small group, 1:1 Modifications for Gifted and Talented students: peer tutoring, show more advanced number sentences with pictures.

Subject Area: ____Math_____	
Grade Level: Kindergarten	Brief Summary of Unit: Numbers are written in specific ways but can be represented in various ways. Counting helps make sense of quantity and number relationships. Counting strategies can help group a number of objects.
Unit:Grouping and Comparing Numbers	

Content/Objective	**Standards**	**Skills – SWBAT**	**Suggested Activities**	**Suggested Assessments**	**Pacing Guide**
● Written numerals are symbols that represent quantities and number words. ● Numbers have a specific way of being written. ● Each successive number is one more than the previous number. ● The later the number comes in the counting sequence, the larger the quantity it represents.	K.MD.1, 2, 3 K.G.1,2, 4,5 K.CC.1,2,3, 4a-c,5,6,7 K.OA.1, 3,4	● Read, write, and manipulate these symbols. ● Read numerals (i.e. on number cards, spinners, record sheets, number line) in the context of games and other activities. ● Practice writing numbers to represent quantities (i.e. creating number books, whiteboards, sky writing, etc.). ● Count groups of items in any arrangement and calculate the total amounts. ● Demonstrate an understanding that it's more efficient to start with the larger number and add "one more" when working with a set of numbers (i.e. pictures, cubes, fingers, etc.).	● Number flash cards ● daily counting on 100 number grid ● Write numbers on white boards ● My First math Journal workbook pages ● Make class graphs- birthdays, pets, etc…**communication and collaboration** ● Use 10 frame work mats to add on- **critical thinking and problem solving** ● Number bingo ● Identify and order number cards ● Count manipulatives and Write the number ● Activity lists	● Teacher observation of ability to complete task (formative) ● Ability to explain to teacher and/or peer how problem was solved (summative) ● My First Math Journal workbook pages **(Benchmark Assessment)**	8 weeks (January-February)

• Numbers can be represented through words, pictures, symbols, gestures, tables, graphs, and concrete objects. • Using mathematical language helps broaden our understanding of mathematical concepts.		• Compare the number of objects or given number using the terms more, fewer, and same. • Create and compare different representations of the same number and notice that, although they look different, they show the same quantity. • Sort, count, compare, and graph a set of data. • Respond in partnership using terms such as: positions, shapes, and length.			

Integrated Components

21st Century Themes	**_____** Global Awareness ___X__Financial, Economic, Business, and Entrepreneurial Literacy _____ Civic Literacy _____ Health literacy
21st Century Skills	_____ Creativity and Innovation ___x__ Critical Thinking and Problem Solving ___x__ Communication and Collaboration _____ Information Literacy _____ Media Literacy _____Life and Career Skills
Interdisciplinary Connections	**NJSLSA.R1.:** Students must be able to read and understand math activities. **NJSLSA.R7:** Students must be able to to evaluate content from different areas, from text to videos and games. **CRP2.** Apply appropriate academic and technical skills by connecting grouping and comparing to real life objects and scenarios.
Integration of Technology	**Technology Standards**: **8.1.2.A.4:** Students be able to navigate online games and songs, Smartboard games, and EDM games
Resources	For Teachers: Everyday Math 4 & Supplemental Components Minute Math Book Math Master Roll Over! A Counting Song by Merle Peek For Students: number grid/line
Integrated Accommodations and Modifications	Modifications for Special Ed./504/At-Risk students: various manipulatives, charts, small group, 1:1 Modifications for ELL students: various manipulatives, charts, small group, 1:1 Modifications for Gifted and Talented students: peer tutoring, start to identify two more

Subject Area: _____Math_____	
Grade Level:Kindergarten	Brief Summary of Unit: Objects can be described and compared based on measurable attributes. 2 dimensional shapes are flat and 3 dimensional shapes have depth and can be held.
Unit: Measuring and 3-D Shapes	

Content/Objective	**Standards**	**Skills – SWBAT**	**Suggested Activities**	**Suggested Assessments**	**Pacing Guide**
● Objects can be measured using nontraditional tools. ● Shapes can be 2-dimensional and 3-dimensional. ● 2-dimensional and 3-dimensional shapes have similarities and ● differences.	K.MD.1, 2,3, K.G.1,2,3,4 K.CC.3, 5,6,7 K.OA.1, 2,3,4	● Sort objects based on measurable attributes, such as length, weight, and capacity. ● Measure the length or height of an object using non-traditional methods. ● Align objects properly to ensure precision when measuring. ● Collect, explore, and compare various real-world examples of 3-dimensional shapes. ● Gain experience analyzing and describing 2 and 3-dimensional parts and attributes with both informal and formal geometric language. ● Distinguish between 2-dimensional (flat) and 3-dimensional (solid) shapes.	● SmartBoard activities ● EDM online games ● STEM- 3D shape building using marshmallows and toothpicks-**Creativity and Innovation, Critical Thinking and problem solving** ● **Geoboards- Critical Thinking and problem solving** ● Scavenger hunt for things taller/shorter and the same ● Partner recording of time using different ways for getting from one point to another-**Communication and Collaboration** ● 3D shape museum ● 3D Scavenger Hunt	● Teacher observation of ability to demonstrate concept (formative) ● Running records (summative) ● My First Math Book workbook pages **(Benchmark assessment)** ● Facilitation Grid (summative)	8 weeks (March-April)

		• Name, describe, compare, and interact with 3-dimensional shapes. • Identify the part of the 3-dimensional shape that is 2-dimensional.			

Integrated Components

21st Century Themes	_____ Global Awareness ___X__Financial, Economic, Business, and Entrepreneurial Literacy _____ Civic Literacy _____ Health literacy
21st Century Skills	__x___ Creativity and Innovation __x___ Critical Thinking and Problem Solving ___x__ Communication and Collaboration _____ Information Literacy _____ Media Literacy _____Life and Career Skills
Interdisciplinary Connections	**NJSLSA.R1.:** Students must be able to read and understand math activities. Read and understand "Pet Show!" **NJSLSA.R7:** Students must be able to to evaluate content from different areas, from text to videos and games.
Integration of Technology	**Technology Standards**: **8.1.2.A.4:** Students be able to navigate online games and songs, Smartboard games, and EDM games.
Resources	For Teachers: Everyday Math 4 & Supplemental Components Minute Math Book Math Master My First Math Book Pet Show! by Ezra Jack Keats 3D shapes song https://www.youtube.com/watch?v=2cg-Uc556-Q For Students: My First Math Book
Integrated Accommodations and Modifications	Modifications for Special Ed./504/At-Risk students : small group, 1:1, fewer problems, charts, various manipulatives Modifications for ELL students: small group, 1:1, fewer problems, charts,various manipulatives Modifications for Gifted and Talented students: peer mentoring,STEM activities

Subject Area: _____Math_____	
Grade Level:Kindergarten	Brief Summary of Unit: Number sense develops through experience. We count and represent numbers in different ways for different purposes.
Unit: Number Sense	

Content/Objective	Standards	Skills – SWBAT	Suggested Activities	Suggested Assessments	Pacing Guide
● Routines and structures are necessary to grow a productive, responsible classroom. ● Graphs and charts enable us to see data more clearly (T Chart, bar graph, line plot, etc.). ● Counting can be possible when we recognize that numbers are arranged in sequential order.	K.MD.1, 2,3, K.G.1,.2, 4,6 K.CC.1, ,2, 3, 4a-c, 5, 6 K.OA.3, 5	● Connect the purpose of daily routines to the growth of mathematical concepts. 1. Track the number of days in a week using links/straws. 2. Monitor attendance using charts. 3. Identify date on the calendar. 4. Name the day and what day comes before and after it and the month and what month comes before and after it. ● Discover patterns through collecting, recording, displaying, and discussing data. ● Engage in collaborative inquiry to analyze data presented in graphs. ● Classify and count the number of objects in a category.	● Calendar Activity lists ● Reading and recording various simple graphs ● Morning Meeting Routines- **Communication and Collaboration** ● Class collection Jar ● Array number recognition games	● Teacher observation of ability to perform/explain task (formative) ● Facilitation Grids (summative) ● Running records (summative) ● Evaluation of classification and collaborative inquiry **(Benchmark Assessment)**	12 weeks (September-November)

• Estimation is a valuable strategy to use when counting.		• Develop oral counting skills through games and songs. • Arrange objects in an organized fashion. • Calculate using visual representations. • Use one to one correspondence when counting. • Explore quantities by using estimation strategies.			

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21st Century Skills	_____ Creativity and Innovation ___x__ Critical Thinking and Problem Solving __x___ Communication and Collaboration _____ Information Literacy ___x___ Media Literacy _____Life and Career Skills
Interdisciplinary Connections	**NJSLSA.R1.:** Students must be able to read and understand math activities. **NJSLSA.R7:** Students must be able to to evaluate content from different areas, from text to videos and games. **CRP1.** Act as a responsible and contributing citizen by being responsible and proactive in use of class calendars and graphs.
Integration of Technology	**Technology Standards** **8.1.2.A.4:** Students be able to navigate online games and songs, Smartboard games, and EDM games
Resources	For Teachers: Everyday Math 4 & Supplemental Components Minute Math Book Math Master Song about the 12 Months https://www.youtube.com/watch?v=RBD5swuXyI&list=UUNTakNQwoAqVtPSORzswT_A&index=30 Song about the days of the week https://www.youtube.com/watch?v=LryBa5n4LAc&index=33&list=UUNTakNQwoAqVtPSORzswT_A For Students: classroom calendar,charts
Integrated Accommodations and Modifications	Modifications for Special Ed./504/At-Risk students : small group instruction, 1:1, various manipulatives, charts Modifications for ELL students: small group instruction, 1:1, various manipulatives, chart Modifications for Gifted and Talented students: peer mentoring, individual collection jars

Subject Area: _____Math_____	
Grade Level:Kindergarten	Brief Summary of Unit: Mathematical thinkers are reflective. All numbers have value.
Unit:Problem Solving and Addition	

Content/Objective	Standards	Skills – SWBAT	Suggested Activities	Suggested Assessments	Pacing Guide
● Adding is "putting together" and subtracting is "taking apart." ● A strong conceptual foundation will help them approach addition and subtraction flexibly using a range of strategies (i.e. counting on fingers, using manipulatives, drawing pictures, etc.) rather than following rote procedures. ● Estimating is helpful for making sense of and solving problems, not just random guessing.	K.MD.1, 2,3 K.G.1,2,3,4,6 K.CC.1,2,3,5,6, 7 K.OA.1,2,3 ,5 K.NBT.1	● Explore number stories, games, and other concrete experiences to help them develop their understanding of addition and subtraction. ● Connect their conceptual understanding of these operation to specific strategies for adding and subtracting. ● Begin to recognize when each strategy is most useful and efficient for solving addition and subtraction problems. ● Fine tune their estimates, by using terms such as "much too high", "much too low", and "pretty close."	● In/Out Function/What's My Rule? EDM game- **Critical Thinking and Problem Solving** ● Domino addition ● Roll and Record ● Addition and subtraction strategies ● Explore adding with calculators individually or with a partner - **Communication and Collaboration**	● Teacher observation of student ability to demonstrate skill (formative) ● My First Math Book workbook pages **(Benchmark assessment)** ● Facilitation Grid (summative)	4 weeks (September)

● Calculators can enhance their estimates, by using terms such as "much too high", "much too low", and "pretty close." ● Titles, labels, and units help them communicate information clearly in visual representations of data. ● Chunking sets helps organize conception of larger numbers, both physically and visually, and develops an understanding of place value.		● Expand on their estimation strategies, such as referencing a known quantity of objects. ● Explain to a peer how they came up with the number for the estimation. ● Use key sequence procedures on calculators for counting forward by ones and tens. ● Play with and explore calculators. ● Respond to given addition questions by utilizing their calculators. ● Construct a survey question and conduct the survey with a partner. ● Organize and represent the results of a survey so others can see and understand what was learned (i.e., tally chart, graph, picture, or other representations.) ● "Turn and Talk" to a partner about the			

		various survey representations and results. ● Expand developing number sense to include larger numbers (i.e., using double ten frames to organize teen numbers into groups of tens and more ones). ● Demonstrate understanding of double digit numbers using double ten frames. ● Compare unequal sets of objects using terms such as more, greater, fewer, and less. ● Use a counting loop and beads to decompose larger numbers.			

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Interdisciplinary Connections	**NJSLSA.R1.:** Students must be able to read and understand math activities. **NJSLSA.R7:** Students must be able to to evaluate content from different areas, from text to videos and games.

Integration of Technology	**Technology Standards** **8.1.2.A.1:** Students must identify the basic features of a calculator and explain its purpose. **8.1.2.A.4:** Students be able to navigate online games and songs, Smartboard games, and EDM games.
Resources	For Teachers: Everyday Math 4 & Supplemental Components Minute Math Book Math Master Song about teen numbers https://www.youtube.com/watch?v=1W5aYi3lkho&list=UUNTakNQwoAqVtPSORzswT_A&index=29 Groups of ten song (teen numbers) https://www.youtube.com/watch?v=uedvwH6Ay18&index=17&list=UUNTakNQwoAqVtPSORzswT_A For Students: My First Math Book
Integrated Accommodations and Modifications	Modifications for Special Ed./504/At-Risk students: small group, 1:1, fewer problems, Modifications for ELL students: small group, 1:1, fewer problems Modifications for Gifted and Talented students: peer mentoring, add higher dominos

Mine Hill Township School District

(1st Gr/Math)

Written by:
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Reviewed by:
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Approval date:
October 26, 2020

Mine Hill Township School District
42 Canfield Avenue
Mine Hill, NJ 07803
www.minehillcas.org

Subject Area: Math-Addition and Subtraction	
Grade Level: 1	**Brief Summary of Unit:** Represent and solve problems involving addition and subtraction.
Unit: Problem Solving through Addition and Subtraction	

Content/Objectives	Standards	Skills – SWBAT	Suggested Activities	Suggested Assessments	Pacing Guide
● Represent and solve problems involving addition and subtraction ● Understand and apply properties of operations and the relationship between addition and subtraction ● Add and subtract within 20 ● Work with addition and subtraction equations	1.OA.1. 1.OA.2. 1.OA.3. 1.OA.4. 1.OA.5. 1.OA.6 1.OA.7. 1.OA.8.	● Use addition and subtraction within 20 to solve word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions,. ● Solve word problems that call for addition of three whole numbers whose sum	● Use dry erase boards and markers to practice counting on a number line. ● Play games including: number line squeeze. **Creativity and Innovation** ● Work with partner exploring and using tool kits to practice counting different objects. Take turns being the pretend teacher. **Communication and Collaboration** ● Work with partner to use the calendar and number line to reinforce patterns. Take turns counting. **Communication and Collaboration** ● Participate in smart board activities to reinforce skills and other challenging games to reinforce and test skills **Critical Thinking and Problem Solving**	*Teacher observation (formative) *Whole Class Discussion (formative) *Small group assessment (formative) *Completed Math Journal pages (summative) *Teacher created assessments (summative) *End of unit review and assessment **(Benchmark assessment)**	September-November (8-12 weeks)

		is less than or equal to 20, ● Apply properties of operations as strategies to add and subtract.2 ● Understand subtraction as an unknown-addend problem. ● Understand the meaning of the equal sign, and determine if equations involving addition and subtraction are true or false. ● Determine the unknown whole number in an addition or subtraction equation relating	● Complete skills pages to reinforce what has been taught. **Critical Thinking and Problem Solving** ● Use white boards to reinforce skills by practicing with a partner, writing subtraction sentences and taking turns solving them. **Communication and Collaboration** ● Work at differentiated learning centers to reinforce all addition and subtraction skills **Creativity and Innovation, Communication and Collaboration** ● Participate in teacher directed, small group and partner activities to reinforce skills **Communication and Collaboration** ● Work with a partner, taking turns to practice writing equations and solving them.**Communication and Collaboration** ● Use number lines to practice counting forwards and backwards **Critical Thinking and Problem Solving** ● Use the calendar and number line to reinforce patterns **Critical Thinking and Problem Solving**		

		three whole numbers.			
● Addition and subtraction within 100	1.NBT.C	● Add within 100 using 2 digit and 1 digit numbers. ● Add within 100 using multiples of 10. ● Given a 2 digit number add or subtract multiples of 10 without having to count. ● Subtract within 100 using multiples of 10 ● Solve problems and write reasoning on solving	● Work at differentiated learning centers to reinforce all addition and subtraction skills **Creativity and Innovation, Communication and Collaboration** ● Participate in teacher directed, small group and partner activities to reinforce skills **Communication and Collaboration** ● Work with a partner, taking turns to practice writing equations and solving them.**Communication and Collaboration** ● Use hundreds chart and number line to practice solving equations by 10s. ● Solve word problems and write how they solved.	*Teacher observation (formative) *Whole Class Discussion (formative) *Small group assessment (formative) *Completed Math Journal pages (summative) *Teacher created assessments (summative) *End of unit review and assessment **(Benchmark assessment)**	January-February (4 weeks)

Integrated Components

21st Century Themes	_____ Global Awareness ___X__Financial, Economic, Business, and Entrepreneurial Literacy _____ Civic Literacy _____ Health literacy
21st Century Skills	___X__ Creativity and Innovation ___X__ Critical Thinking and Problem Solving ___X__ Communication and Collaboration _____ Information Literacy _____ Media Literacy __X___Life and Career Skills

Interdisciplinary Connections	**W.1.5** Ask and answer questions about addition and subtraction and strengthen their own work through collaboration and assessment. **ETSI.A ETSI.B** Students must create and answer questions related to addition and subtraction. **NJSLSA.R1**. Students must read closely to answer questions and must be able to cite and explain "why." **NJSLSA.SL1**. Prepare for and participate in collaboration with peers at varying levels of individual learning. **CRP2.** Apply appropriate academic and technical skills by collaborating with peers and utilizing a variety of available digital tools.	
Integration of Technology	8.1.2.A.1: Students must identify and utilize various basic features of a multitude of technological devices, including: Smartboard, Everyday Math website, ABCYa, Funbrain, SumDog, and the Smart Table	
Resources	For Teachers: ● All references will be to Grade 1 Everyday Mathematics (McGraw Hill) - Unit 1 ● Teacherspayteachers.com ● Everyday Math Websites	For Students: ● All references will be to Grade 1 Everyday Mathematics (McGraw Hill) - Unit 1 ● Everyday Math Student Journal ● Everyday Math Student tool kit ● Everyday Math Masters Template ● Everyday Math Home Links ● Number Line ● Calculators ● Learning centers ● Everyday Math Games ● Smartboard Websites (Everyday Math Website, Funbrain, and Abcya website)
Integrated Accommodations and Modifications	Modifications for Special Ed./504/At-Risk students : Length of time extended. Reduced number of problems. Base ten blocks, connectors, and additional manipulatives provided. Flashcards with words and pictures. Text-to-voice audio for SumDog problems. Use of manipulatives on an as-need basis and as per individual IEP. Individual Anchor Charts for each unit accessible via individual Math folders. Modifications for ELL students: Flashcards with words pictures. Flashcards and vocabulary translation will be provided. Text-to-voice audio for SumDog problems. Math Vocabulary Book and Double-sided Anchor Charts containing pictures and words. Modifications for Gifted and Talented students: Students will create and solve problems using +9. Students will complete the Mystery Number Challenge (finding the unknown). Students will complete "Addition Memory."	

Subject Area: Math-Geometry	
Grade Level: First	Brief Summary of Unit: Students will be able to identify, distinguish, compose and describe geometrical shapes that are different dimensions and sizes.
Unit: Geometry	

Content/Objective	**Standards**	**Skills – SWBAT**	**Suggested Activities**	**Suggested Assessments**	**Pacing Guide**
• Be able to identify one, two and three dimensional shapes. • Understand the properties of shapes and their attributes. • Be able to put together two and three dimensional shapes in order to make new shapes.	1.G.1 1.G.2. 1.G.3.	• Can distinguish between defining attributes (e.g., triangles are closed and three-sided) versus non-defining attributes (e.g., color, orientation, overall size) ; build and draw shapes to possess defining attributes • Able to compose two-dimensional shapes (rectangles, squares, trapezoids, triangles, half-circles, and	• Use dry erase boards to draw shapes from a model. Students will be encouraged to work with their partners and ask questions if assistance is needed. • Participate in smart board interactive activities to reinforce skills **Communication and Collaboration** Make different patterns using attribute blocks • Participate in teacher directed, small group and partner activities to create composite shapes out of several different geometrical shapes • Use manipulatives to make a polygon • Build a shapes museum .**Creativity and Innovation**	• Self evaluation, students will check their work and ask a partner to check for assistance if needed.(formative) • Student/Teacher observation (formative) • Student/Student assessment (formative) • Whole Class Group Discussions/Assessments (formative) • Small Group Discussions/Assessments (formative) • Math Journal pages (summative) • Teacher created assessments (summative) • End of unit review and assessment **(Benchmark assessment)**	April (4 weeks)

		quarter-circles) or three-dimensional shapes (cubes, right rectangular prisms, right circular cones, and right circular cylinders) to create a composite shape, and compose new shapes from the composite shape ● Partition circles and rectangles into two and four equal shares, describe the shares using the words halves, fourths, and quarters, and use the phrases half of, fourth of, and quarter of. Describe the whole as two of, or four of the shares. Understand for these examples that decomposing into more equal	● Complete skills pages and pair check with a partner. ● Use differentiated learning centers two and three dimensional shapes in a small group setting. **Critical Thinking and Problem Solving.** ● Smartboard interactive games ● www.brainpopjr.com, www.funbrain.com **Media Literacy**		

		shares creates smaller shares			

Integrated Components

21st Century Themes	_____ Global Awareness __X___Financial, Economic, Business, and Entrepreneurial Literacy _____ Civic Literacy _____ Health literacy
21st Century Skills	__X__ Creativity and Innovation __X___ Critical Thinking and Problem Solving __X___ Communication and Collaboration _____ Information Literacy __X___ Media Literacy _____Life and Career Skills
Interdisciplinary Connections	ETSI.1A, ETSI.2B: Students will create physical geometry problems/solutions. RI.1.1: Students will need to ask and answer questions about geometry problems. NJSLSA.SL1. Prepare for and participate in collaboration with peers at varying levels of individual learning. CRP6. Demonstrate creativity and innovation when creating shapes and shape museum.
Integration of Technology	**Technology Standards** **8.1.2.A.1** Identify the basic features of a Smartboard, Smart Table, and website and explain their purpose. **8.1.2.A.4** Demonstrate developmentally appropriate navigation skills in virtual environments Teacher will use technology-smartboard or Smart Table to display all visuals, instructions, instructional worksheets and activities. Web site will be utilized. Students will engage in all activities. Students will use the Smartboard to play geometry games involving completing patterns and making new shapes.
Resources	For Teachers: Teacher will use the Smartboard to present geometry interactive games, geometrical shapes for making patterns and new shapes, charts for displaying geometrical shapes and properties. The teacher will use technology- smartboard or Smart Table to display all visuals, instructions, instructional worksheets and activities. Website will be utilized. Everyday Math manual and activities will be utilized for lessons and small group work. Relevant differentiated mentor activities correlated to student individual and small group needs.

	For Students: Will engage in all activities. Students will engage in relevant Everyday Math work and differentiated activities. Students will utilize Math Journals and individual work. Students will use the computer to learn and play games involving geometrical shapes on www.funbrain.
Integrated Accommodations and Modifications	Modifications for Special Ed./504/At-Risk students : Students will use pattern blocks and simple shapes to build knowledge of geometrical shapes. Flashcards with words and pictures. Text-to-voice audio for SumDog problems. Use of manipulatives on an as-need basis and as per individual IEP. Individual Anchor Charts for each unit accessible via individual Math folders. Students will play "I Spy" with shapes around the room in order to correlate Geometry to real life. Modifications for ELL students:Flash cards with translations will be provided if necessary. Flashcards with pictures. Flashcards and vocabulary translation will be provided. Text-to-voice audio for SumDog problems. Math Vocabulary Book and Double-sided Anchor Charts containing pictures and words. Modifications for Gifted and Talented students: Students will share their Shapes Museum and teach struggling students how to build one. Students will create a vending machine out of 3-D shapes. Students will complete enrichment activities targeting higher order/above grade level thinking. Students create Math problems correlated to specific unit skills.

Subject Area: Mathematics-Measurement	
Grade Level:First Grade	Brief Summary of Unit: Students will be able to tell time, interpret data from a graph and use standard and non standard units of measurement to measure objects.

Content/Objective	**Standards**	**Skills – SWBAT**	**Suggested Activities**	**Suggested Assessments**	**Pacing Guide**
• Understand how to tell time on an analog and digital clock. • Understand how to write time correctly • Be able to look at an analog clock and a digital clock to interpret time • Represent and Interpret Data • Measure lengths indirectly as units	1.MD.3 1.MD.4 1.MD.1 1.MD.2	• Know how to tell time in hours • Know how to tell time in half hours • Write time correctly from an analog and a digital clock model • Understand elapsed time • Describe how the minute hand and hour hand move around an analog clock • Explore, organize, represent and interpret data with up to three categories. • Answer questions correctly about the total number of data points, how many in each category,	• Use tool kit practice clocks to practice telling time to the hour, half hour, and quarter hour • Work with a partner to set tool kit practice clocks to show a time up to the quarter hour **Communication and Collaboration** • Draw the hands on a blank clock to show a time to the quarter hour • Play telling time games to reinforce skills **Communication and Collaboration** • Complete skills pages to reinforce skills and check with a partner **Critical Thinking**	• Partner checking. Students will work with a partner to practice telling time to the hour, half-hour and quarter hour. (formative) • Student/teacher observations (formative) • Group discussions. Asking and answering questions. (formative) • Partner checking. Students will work with a partner to practice telling time to the hour, half-hour and quarter hour. (formative) • Rubrics: What a graph should look like (summative) • Quiz **(Benchmark Assessment)**	December-March 12 weeks

		and how many more or less are in one category than in another ● Order three objects by length, compare the lengths of two objects indirectly by using a third object ● Measuring the length of a unit from end to end; explore measuring objects that are in standard and non-standard form. (The object being measured is spanned by a whole number of length with no gaps or overlaps) ● Express the length of an object as a whole number of length units ● *Understand that the length of measurement of an object is the number of same-size length units that span it	● Work with a partner to make a clock and take turns telling time. **Creativity and Innovation** ● Work with a partner to read a basic graph **Communication and Collaboration** ● Draw graphs and color each category **Creativity and Innovation** ● Use white boards to answer questions about the graphs-ie. total, how many more and less. **Critical Thinking and Problem Solving** ● Play telling time games to reinforce skills **Communication and Collaboration** ● Students will work together in groups to design a team graph to complete on the computer and fill in the categories and number of data points for each. **Media Literacy**		

		with no gaps or overlaps.	• Work with a partner to measure objects using paper clips • Work with a partner to measure objects in inches and centimeters **Communication and Collaboration** • Order objects from smallest to largest and measure **Critical Thinking and Problem Solving** • Use white boards to answer questions about units of measurement and draw illustrations to match **Creativity and Innovation** • Complete skills pages • Play Smart board games to order three objects and compare their lengths **Media Literacy**		

Integrated Components

21st Century Themes	_____ Global Awareness __X___Financial, Economic, Business, and Entrepreneurial Literacy _____ Civic Literacy _____ Health literacy

21st Century Skills	__X___ Creativity and Innovation __X___ Critical Thinking and Problem Solving __X__ Communication and Collaboration _____ Information Literacy ___X___ Media Literacy ___x__Life and Career Skills
Interdisciplinary Connections	**1-PS4-1**. Plan and conduct investigations to provide evidence that vibrating materials can make sound and that sound can make materials vibrate using graphs. **RI.1.1.** Ask and answer questions about key details in the graphs. **K-2-ETS1-1**. Ask questions, make observations, and gather information about a situation (data) people want to change to define a simple problem that can be solved through the development of a new or improved object or tool. **NJSLSA.W6**. Use technology, including the Internet, to produce and publish writing (math work) and to interact and collaborate with others. **NJSLSA.SL1**. Prepare for and participate in collaboration with peers at varying levels of individual learning.
Integration of Technology	**Technology Standards** **8.1.2.A.1** Identify the basic features of a Smartboard, Smart Table, and website and explain their purpose. **8.1.2.A.4** Demonstrate developmentally appropriate navigation skills in virtual environments Teacher will use technology-smartboard or Smart Table to display all visuals, instructions, instructional worksheets and activities. Web site will be utilized. Students will engage in all activities.
Resources	For Teachers: The teacher will use technology-smartboard or Smart Table to display all visuals, instructions, instructional worksheets and activities. Web site will be utilized. Everyday Math manual and activities will be utilized for lessons and small group work. Relevant differentiated mentor activities correlated to student individual and small group needs. For Students: Will engage in all activities. They will use chromebooks to design graphs and will use poster paper to create clocks. Students will engage in relevant Everyday Math work and differentiated activities. Students will utilize Math Journals and individual work.
Integrated Accommodations and Modifications	Modifications for Special Ed./504/At-Risk students : Flashcards with words and pictures. Text-to-voice audio for SumDog problems. Use of manipulatives on an as-need basis and as per individual IEP. Individual Anchor Charts for each unit accessible via individual Math folders.

	Modifications for ELL students: Flashcards and vocabulary translation will be provided. Text-to-voice audio for SumDog problems. Math Vocabulary Book and Double-sided Anchor Charts containing pictures and words. Modifications for Gifted and Talented students: Students create Number Grid Puzzles. Students will solve Number codes. Students will collect and analyze data with 4 categories.

Subject Area: __Number & Operations in Base Ten_____	
Grade Level:First	Brief Summary of Unit: Students will be able to count up to the number 120 starting at any number less than 120 or any two double-digit numbers that can be added up to that number. Students will be able to subtract numbers and use multiples of ten to solve problems.
Unit; Number and Operations in base Ten	

Content/Objective	**Standards**	**Skills – SWBAT**	**Suggested Activities**	**Suggested Assessments**	**Pacing Guide**
*Understand how to extend the counting sequence up to 120. *Understand place value of numbers. * Use place value and properties of operations to add and subtract	1.NBT.1 1.NBT.2. 1.NBT.3 1.NBT.4 1.NBT.5 1.NBT.6	● Count to 120, starting at any number less than 120. ● Read and write numerals in this range ● Represent numbers of objects with a written numeral up to 120. ● Understand that the two digits of a two-digit number represent amounts of tens and ones. *Understand	● Investigate a number grids with partners and practice counting from 1 to 120. ● Color a number grid independently and then check with a partner ● Students will play counting up games to reinforce skills ● Students will participate in interactive smart board activities on www.funbrain.com. **Communication and Collaboration** Students will participate in teacher directed, small group and partner activities to make groups of objects that equate to amounts up	● Teacher observation (formative) ● Whole Class Group Discussion (formative) ● Small group assessment (formative) ● Math Journal pages (summative) ● Teacher created assessments (summative) ● End of unit review and assessment (summative) (**Benchmark Assessment)** ● End of School Year Assessment	September (Sequencing) (2-4 weeks) December (Place Value) 2-3 Weeks

		the following as special cases: 10 can be thought of as a bundle of ten ones — called a “ten.” The numbers from 11 to 19 are composed of a ten and one, two, three, four, five, six, seven, eight, or nine ones. ● Use numbers 10, 20, 30, 40, 50, 60, 70, 80, 90 to refer to one, two, three, four, five, six, seven, eight, or nine tens (and 0 ones). *Compare two, two-digit numbers based on meanings of the tens and ones digits, recording the results of comparisons with the	to 120. **Critical Thinking and Problem Solving** ● Students will work together to build two-digit numbers with their Base-ten materials. **Communication and Collaboration** ● Students will participate in smart board activities involving how to make a ten and different two digit numbers.www.funbrain.com **Media Literacy** ● Use dry erase boards and markers to write numbers that match their base ten materials with a partner. **Critical Thinking** and **Problem Solving** ● Complete skills pages and then check with with a partner ● Use dry erase boards and markers to write numbers that match their base ten materials with a partner. **Critical Thinking** and **Problem Solving** ● Complete skills pages and then check with with a partner	**(Benchmark assessment)**	

		symbols >, =, and <. ● Add within 100, including adding a two-digit number and a one-digit number, and adding a two-digit number and a multiple of 10, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used. ● Understand that in adding two-digit numbers, one adds tens and tens, ones and			

		ones; and sometimes it is necessary to compose a ten ● Given a two-digit number, mentally find 10 more or 10 less than the number, without having to count; explain the reasoning used ● Subtract multiples of 10 in the range 10-90 from multiples of 10 in the range 10-90 (positive or zero differences), using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between			

		addition and subtraction; relate the strategy to a written method and explain the reasoning used			

Integrated Components

21st Century Themes	_____ Global Awareness __X___Financial, Economic, Business, and Entrepreneurial Literacy _____ Civic Literacy _____ Health literacy
21st Century Skills	__X__ Creativity and Innovation __X__ Critical Thinking and Problem Solving __X__ Communication and Collaboration _____ Information Literacy ___X___ Media Literacy _____Life and Career Skills
Interdisciplinary Connections	NJSLSA.W.1.3,NJSLSA.W.1.5, NJSLSA.W.1.6: Students write, reflect on, and strengthen their own writing problems. K-2-ETS1-1. Students make observations about their written number sentences and use a variety of digital tools to create and improve their number stories. CRP2. Students must apply appropriate academic and technical skills to their creation of Math problems using various means of digital tools. NJSLSA.SL1. Prepare for and participate in collaboration with peers at varying levels of individual learning.
Integration of Technology	Technology Standards: 8.1.2.A.3

	8.1.2.A.4 Teacher will use the Smart board to present an informational video about Base ten and place value. www.funbrain.com. Use of SumDog to target specific skills. Students will use Smart Table apps correlated to specific NJSLS.
Resources	For Teachers: Teacher will use the Smart table to download apps for place value. The Smartboard will be utilized for presentations and interactive games for double-digits and place value. Everyday Math manual will be utilized for whole class and small group lesson. Relevant differentiated activities including individual work, games, and small group activities based on group and individual needs. Teacher will utilize Smartboard for lessons and activities. For Students: number grids for counting, base ten materials, computer and smart table for adding, subtracting and building numbers starting at the ones place using base ten games. Students will engage in relevant Everyday Math work and differentiated activities. Students will utilize Math Journals and individual work.
Integrated Accommodations and Modifications	Modifications for Special Ed./504/At-Risk students : Flashcards with words and pictures. Text-to-voice audio for SumDog problems. Use of manipulatives on an as-need basis and as per individual IEP. Individual Anchor Charts for each unit accessible via individual Math folders. Students will make number collections to refer back to. Modifications for ELL students: Flashcards and vocabulary translation will be provided. Text-to-voice audio for SumDog problems. Math Vocabulary Book and Double-sided Anchor Charts containing pictures and words. Modifications for Gifted and Talentedstudents: Students will create their own base ten booklets to be shared with the class and can be used to assist Special Ed students. Students will create dice to apply base ten skills.. Students create Math problems correlated to base ten.

Mine Hill Township School District

(2nd Gr/Math)

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Approval date:
October 26, 2020

Mine Hill Township School District
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Subject Area: _____Math_____	
Grade Level: 2	Brief Summary of Unit: In this unit, children work in an active, collaborative environment to learn both mathematics content and mathematical practices. Children's learning will focus on three clusters of the New Jersey Student Learning Standards: Operations and Algebraic Thinking, Number and Operations in Base Ten, and Measurement and Data.
Unit Name: #1 – Establishing Routines	

Content/Objective	**Standards**	**Skills – SWBAT**	**Suggested Activities**	**Suggested Assessments**	**Pacing Guide**
Students will be able… -Count coins -Place numbers on a number line -Skip count -Use <, > and = -Find equivalent names for numbers -Determine odd and even numbers	2.NBT.2 2.NBT.3 2.NBT.4 2.NBT.5 2.NBT.7 2.NBT.8 2.NBT.9 2.MD.6 2.MD.8 2.OA.2 2.OA.3 2.G.2	1. Represent whole numbers as lengths from 0 on a number line 2. Solve addition and subtraction number stories 3. Count tallies and calculating the values of coin combinations 4. Use patterns in addition and subtraction to complete number grids 5. Write equivalent names for numbers 6. Explore even and odd numbers using concrete and visual models 7. Skip count and looking for place-value patterns in their counts 8. Compare numbers using the symbols for less than, greater than, and equal to 9. Count by 100s and 10s to find the value of base-10 digits	1. Complete daily Mental Math and Math Message problems. 2. Discussion of class number-line poster. (**Communication and Collaboration)** 3. Counting on a number line. 4. Student partners compare numbers on a number line (**Communication and Collaboration)** 5. Make tally marks to represent class attendance 6. Find the total value of coin combinations (**Life and Career Skills)** 7. Create a class scroll from 0 to 1,000 8. "Number-Grid Puzzles" open response (**Critical Thinking and Problem**	1. Self-assessments (warm ups) (formative) 2. Math Boxes (summative) 3. Math Journal pages (summative) 4. Open response problems **(Critical Thinking and Problem Solving) (summative)** 5. Task cards and mad minute activities (formative) 6. Teacher-created assessments (summative) 7. Exit tickets (formative) 8. Teacher observations (formative) 9. Home Links (summative) 10. Summative Unit 1 Assessment (**Benchmark assessment)**	September (4 weeks)

			Solving) 9. Discuss equivalent names for family members and equivalent names for numbers 10. Play “Fishing for 10” game to practice facts with a sum of 10 11. Introduce the quarter and count by 25s 12. Use concrete models to identify even and odd numbers 13. Skip count by 2s, 5s, and 10s and shade counts on a number grid 14. Use alligator prop to teach less than and greater than symbols 15. Make a “building” using base-10 blocks (**Creativity and Innovation)** 16. Sort dominoes based on the total number of dots 17. Play “Around the World” to build math facts (ongoing). 18. Differentiated work including small groups, individual work, games, teacher-directed studies, and student-directed studies. **(Communication**		

			and Collaboration, Life and Career Skills.)		

Integrated Components

21st Century Themes	**_____** Global Awareness __X___Financial, Economic, Business, and Entrepreneurial Literacy _____ Civic Literacy _____ Health literacy
21st Century Skills	__X___ Creativity and Innovation __X__ Critical Thinking and Problem Solving __X___ Communication and Collaboration _____ Information Literacy _____ Media Literacy __X___Life and Career Skills
Interdisciplinary Connections	**ELA: NJSLSA.W2.**Writing explanation of critical thinking activities when completing Number Grid Puzzle Open Response **CRP2.** Apply appropriate academic and technical skills when creating and completing math activities. **CRP8.** Utilize critical thinking to make sense of problems and persevere in solving them in differentiated individual/small group activities.
Integration of Technology	**8.1.2.A.1** Students must utilize and navigate a variety of digital programs and websites, including: BrainPOP Jr. videos on topics/content, IXL.org, aaamath.com, funbrain.com, xtramath.org. Math games may be projected on the Smartboard. Small group work can be completed through Smart Notebook and desktop Math Games.
Resources	**For teachers:** Everyday Math 4 - Unit 1 - Lessons 1.1 through 1.12, Math Masters, Differentiation Handbook, Math Game Kits, Teacher-created materials, Smartboard presentations **For students:** Student Reference Book (hard copy and online version), Math Journal, Family Letters, Home Links, Activity cards, Place-value flip books, Number line poster, Slates and markers, Math mini offices, Plastic coins, Alligator prop, Written and Visual directions, online activities and games, differentiated hands-on activities based on student need.
Integrated Accommodations and Modifications	**Modifications for Special Ed./504/At-Risk student**s **:** -Put number cards in order -Use body motions to “physically” hop on the number line -Create patterns on the number grid to show counting up and down -Play “Two-Fisted Penny Addition” and “The Exchange Game” with pennies, nickels, and dimes -Connect rhythmic counting with a physical action (clapping, toe touches, jumping jacks) **Modifications for ELL students:** -Use think-aloud statements to familiarize students with math terms -Text to Speech in IXL and other Math programs -Use visual aids such as vocabulary packets and picture cards to support concepts -Use body motions to “physically” hop on the number line -Provide visuals and pictures for math term -Teacher and peer modeling -ELL books with Spanish to English conversions

	-Lexia read-alouds and listening for foundational vocabulary skills to incorporate in to Math. - Razkids for Math books. -Create patterns with concrete objects **Modifications for Gifted and Talented students:** -Completing a blank number line -Creating math activities and problems -Mentoring peers in difficult concepts -Finding equivalent coin combinations using specific criteria -Making number scrolls over 1,000 -Solve calculator place-value puzzles -Play "Quarter-Dime-Nickel-Penny Grab"

Subject Area: _____Math_____	
Grade Level: 2	Brief Summary of Unit: In this unit, fact strategies are reviewed and extended. This unit will prepare children to know from memory all sums of two 1-digit numbers by the end of the year.
Unit Name: #2 – Fact Strategies	

Content/Objective	**Standards**	**Skills – SWBAT**	**Suggested Activities**	**Suggested Assessments**	**Pacing Guide**
Students will be able to… -Solve doubles facts. -Know combinations of 10. -Identify numbers as odd or even. -Produce equivalent names for numbers. -Use the turn-around rule.	2.NBT.1 2.NBT.1a 2.NBT.3 2.NBT.5 2.NBT.7 2.NBT.9 2.MD.6 2.MD.8 2.OA.1 2.OA.2 2.OA.3 2.G.1 2.G.2	1. Explore place-value concepts and practice grouping by 10s. 2. Solve addition number stories. 3. Explore doubles and combinations of 10. 4. Use a strategy based on place value to add within 20. 5. Use the near-doubles strategy to solve addition facts. 6. Explore the turn-around rule for addition. 7. Identify even and odd numbers. 8. Generate equivalent names for numbers.	1. Complete daily Mental Math and Math Message problems. 2. Introduce and play "The Exchange Game" using $1s, $10s, and $100s. **(Communication and Collaboration) (Critical Thinking and Problem Solving) (Life and Career Skills)** 3. Create and solve addition number problems of varying complexities. **(Creativity and Innovation)**	1. Self-assessments (warm ups) (formative) 2. Math Boxes (summative) 3. Math Journal pages (summative) 4. Open response problems **(Critical Thinking and Problem Solving) (summative)** 5. Task cards and mad minute activities (formative) 6. Teacher-created assessments	October (4 weeks)

	2.G.3	9. Skip count, add, and subtract to solve problems.	4. Complete number-grid puzzles. 5. Use double ten frames to make combinations of 10. 6. Play “Fishing for 10.” **(Communication and Collaboration) (Critical Thinking and Problem Solving)** 7. Model and discuss the near-doubles strategy for addition. 8. Exploring the turn-around rule for addition. 9. Use dominos to represent the commutative property of addition. 10. “Subtraction and the Turn-Around Rule” open response (**Critical Thinking and Problem Solving)** 11. Introduce and play “Evens and Odds.” **(Communication and Collaboration) (Critical Thinking and Problem Solving)** 12. Create a name-collection box for equivalent numbers. 13. Play “Name that Number.”	(summative) 7. Exit tickets (formative) 8. Teacher observations (formative) 9. Home Links (summative) 10. Summative Unit 2 Assessment **(Benchmark assessment)** 11. Exploration centers (counting up, odd and even numbers, and shapes) (formative)	

			14. Complete frames-and-arrows diagrams using an addition or subtraction rule. 15. Differentiated work including small groups, individual work, games, teacher-directed studies, and student-directed studies. **(Communication and Collaboration, Life and Career Skills.)**		

Integrated Components

21st Century Themes	_____ Global Awareness ___X__Financial, Economic, Business, and Entrepreneurial Literacy _____ Civic Literacy _____ Health literacy
21st Century Skills	__X___ Creativity and Innovation __X__ Critical Thinking and Problem Solving __X___ Communication and Collaboration _____ Information Literacy _____ Media Literacy __X___Life and Career Skills
Interdisciplinary Connections	**NJSLSA.W2.** Explanatory Writing when solving open response problems **NJSLSA.R1.** Students must determine what text explicitly says when completing open responses. **CRP2.** Apply appropriate academic and technical skills when creating and completing math activities. **CRP8.** Utilize critical thinking to make sense of problems and persevere in solving them in differentiated individual/small group activities.
Integration of Technology	**8.1.2.A.1** Students must utilize and navigate a variety of digital programs and websites, including: BrainPOP Jr. videos on topics/content, IXL.org, aaamath.com, funbrain.com, xtramath.org. Math games may be projected on the Smartboard. Small group work can be completed through Smart Notebook and desktop Math Games.
Resources	**For teachers:** Everyday Math 4 - Unit 2 - Lessons 2.1 through 2.12, Math Masters, Differentiation Handbook, Math Game Kit, Teacher-created materials, Smartboard presentations, “Money Madness” by David A. Adler, “Pigs will be Pigs” by Amy Axelrod, relevant differentiated materials **For students:** Student Reference Book (hard copy and online version), Math Journal, Family Letters, Home Links, Activity cards, Place-value, flip books, Number line poster, Slates and markers, Concrete models (ex. Double ten frame), Plastic coins and paper bills

Integrated Accommodations and Modifications	**Modifications for Special Ed./504/At-Risk students :** -Follow I&RS and IEP goals/modifications -Small-group instruction -Use pennies and nickels for “The Exchange Game” (before building up to 1s, 10s, 100s) -Use body motions to “physically” hop on the number line -Create patterns on the number grid to show counting up and down -Connect rhythmic counting with a physical action (clapping, toe touches, jumping jacks) **Modifications for ELL students:** -Use think-aloud statements to familiarize students with math terms -Text to Speech in IXL and other Math programs -Use visual aids such as vocabulary packets and picture cards to support concepts -Use body motions to “physically” hop on the number line -Provide visuals and pictures for math term -Teacher and peer modeling -ELL books with Spanish to English conversions -Lexia read-alouds and listening for foundational vocabulary skills to incorporate in to Math. - Razkids for Math books. -Create patterns with concrete objects **Modifications for Gifted and Talented students:** -Finding combinations that add to 100 -Creating math activities and problems -Mentoring peers in difficult concepts -Create addition number stories using two 2-digit numbers -Finding equivalent coin combinations using specific criteria -Investigate whether sums are always even or always odd during specific situations

Subject Area: _____Math_____	
Grade Level: 2	Brief Summary of Unit: In this unit, more fact strategies are developed, with a focus on strategies for solving subtraction facts. Lessons will focus on supporting the development of fluency with addition and subtraction within 20.
Unit Name: #3 – More Fact Strategies	

Content/Objective	**Standards**	**Skills – SWBAT**	**Suggested Activities**	**Suggested Assessments**	**Pacing Guide**

Students will be able… -Write fact families -Solve "What's My Rule?" problems -Use strategies to solve subtraction facts -Use fact triangles to practice families -Solve -0 and -1 facts.	2.NBT.3 2.NBT.5 2.NBT.7 2.NBT.9 2.MD.6 2.MD.8 2.OA.1 2.OA.2 2.G.2	1. Generate related addition and subtraction facts from number stories. 2. Identify what a fact family is. 3. Use counting-up and counting-back strategy for subtraction. 4. Explore the -0 and -1 fact strategies. 5. Find missing numbers in math problems. 6. Use doubles to solve subtraction facts. 7. Use the going-back-through-10 strategy for subtraction. 8. Use the going-up-through-10 strategy for subtraction.	1. Complete daily Mental Math and Math Message problems. (**Critical Thinking and Problem Solving)** 2. Fact triangles (for practicing fact families). 3. Play "Salute!" to solve for a missing addend. **(Communication and Collaboration)** 4. Model and discuss the -0 and -1 fact strategy. 5. Demonstrate and play "Subtraction Top-It." **(Communication and Collaboration)** 6. Solve "What's My Rule?" problems. 7. Use doubles to subtract. 8. Counting back and up on a number line to solve subtraction problems. 9. "Using Addition Strategies" open response (**Critical Thinking and Problem Solving)** 10. Differentiated work including small groups, individual work, games, teacher-directed studies, and student-directed studies. **(Communication and Collaboration, Life**	1. Self-assessments (warm ups) (formative) 2. Math Boxes (summative) 3. Math Journal pages (summative) 4. Open response problems **(Critical Thinking and Problem Solving) (summative)** 5. Task cards and mad minute activities (formative) 6. Teacher-created assessments (summative) 7. Exit tickets (formative) 8. Teacher observations (formative) 9. Home Links (summative) 10. Summative Unit 3 Assessment **(Benchmark assessment)** 11. Exploration centers (cover rectangles with squares, practice addition/subtraction facts, make coin stamp booklets) (**Life and Career Skills) (Creativity and Innovation)**	November (4 weeks)

			and Career Skills.)	**(formative)**	

Integrated Components

21st Century Themes	**_____** Global Awareness __X___Financial, Economic, Business, and Entrepreneurial Literacy _____ Civic Literacy _____ Health literacy
21st Century Skills	__X___ Creativity and Innovation __X__ Critical Thinking and Problem Solving __X___ Communication and Collaboration _____ Information Literacy _____ Media Literacy __X___Life and Career Skills
Interdisciplinary Connections	**NJSLSA.W2.** Explanatory writing when completing open response problems. **NJSLSA.R1.** Students must determine what text explicitly says when completing open response problems, and when reading Math directions. **CRP2.** Apply appropriate academic and technical skills when creating and completing math activities. **CRP8.** Utilize critical thinking to make sense of problems and persevere in solving them in differentiated individual/small group activities.
Integration of Technology	**8.1.2.A.1** Students must utilize and navigate a variety of digital programs and websites, including: BrainPOP Jr. videos on topics/content, IXL.org, aaamath.com, funbrain.com, xtramath.org. Math games may be projected on the Smartboard. Small group work can be completed through Smart Notebook and desktop Math Games.
Resources	**For teachers:** Everyday Math 4 - Unit 3 - Lessons 3.1 through 3.12,, Math Masters, Differentiation Handbook, Math Game Kit, Teacher-created materials, Smartboard presentations, MathStart picture books, relevant differentiated activities **For students:** Student Reference Book (hard copy and online version), Math Journal, Family Letters, Home Links, Activity cards, Number line poster, Slates and markers, Fact triangles
Integrated Accommodations and Modifications	**Modifications for Special Ed./504/At-Risk student**s **:** -Follow I&RS and IEP goals/modifications -Small-group instruction with written and visual directions -Student expert/mentor assistance. -Use body motions to “physically” hop on the number line -Create patterns on the number grid to subtract -Connect rhythmic counting with a physical action (clapping, toe touches, jumping jacks) -Allow usage of calculator to subtract as needed **Modifications for ELL students:** -Use a spinning wheel for subtraction -Use hands-on activities for subtraction

	-Use think-aloud statements to familiarize students with math terms -Text to Speech in IXL and other Math programs -Use visual aids such as vocabulary packets and picture cards to support concepts -Use body motions to “physically” hop on the number line -Provide visuals and pictures for math term -Teacher and peer modeling -ELL books with Spanish to English conversions -Lexia read-alouds and listening for foundational vocabulary skills to incorporate in to Math. - Razkids for Math books. -Create patterns with concrete objects **Modifications for Gifted and Talented students:** -Subtract larger numbers with doubles -Relate division to subtraction -Creating math activities -Creating and writing more detailed number stories -Use subtraction in making change with quarters and dollars

Subject Area: _____Math_____	
Grade Level: 2	Brief Summary of Unit: In this unit, children extend their understanding of place value, which provides a foundation for the development of strategies for fluently adding and subtracting multi-digit numbers. They also explore standard tools and units for measuring length and time.
Unit Name: #4 – Place Value and Measurement	

Content/Objective	**Standards**	**Skills – SWBAT**	**Suggested Activities**	**Suggested Assessments**	**Pacing Guide**

Students will be able to… -Tell and write time as precise as to the nearest 5 minutes. -Understand the concept of AM and PM -Write a number represented by base-10 blocks -Write a number in expanded notation -Measure lengths	2.NBT.1a 2.NBT.1b 2.NBT.2 2.NBT.3 2.NBT.4 2.NBT.5 2.NBT.7 2.MD.1 2.MD.2 2.MD.3 2.MD.7 2.MD.9 2.OA.2 2.OA.4	1. Tell time to the nearest hour, half-hour, and 5 minutes. 2. Tell time using AM and PM. 3. Represent 3-digit numbers. 4. Use place value in expanded form to compare 3-digit numbers. 5. Use base-10 blocks to model addition and subtraction of multi-digit numbers. 6. Measure objects with a foot-long foot. 7. Use the inch and centimeter as standard units of length.	1. Complete daily Mental Math and Math Message problems. (**Critical Thinking and Problem Solving)** 2. Use an analog clock to model and demonstrate time. 3. Tell and write time using a digital clock. 4. Explore a 24-hour timeline to practice AM and PM. 5. Match numbers to base-10 block representations. 6. Use place values to compare numbers. 7. Make exchanges with base-10 blocks. 8. “Using Base-10 Blocks to Show a Number” open response (**Critical Thinking and Problem Solving)** 9. Play “Target to 50” game. (**Communication and Collaboration)** 10. Discuss and measure with a foot-long foot cutout. 11. Use measuring tools to measure units of length in inches and centimeters.	1. Self-assessments (warm ups) (formative) 2. Math Boxes (summative) 3. Math Journal pages (summative) 4. Open response problems **(Critical Thinking and Problem Solving) (summative)** 5. Task cards and mad minute activities (formative) 6. Teacher-created assessments (summative) 7. Exit tickets (formative) 8. Teacher observations (formative) 9. Home Links (summative) 10. Summative Unit 4 Assessment **(Benchmark assessment)** 11. Exploration centers (subtraction fact and strategies, measure path in inches and centimeters, and explore arrays) (**Life and Career Skills) (Creativity and Innovation) (formative)**	December (4 weeks)

			12. Differentiated work including small groups, individual work, games, teacher-directed studies, and student-directed studies. **(Communication and Collaboration, Life and Career Skills.)**		

Integrated Components

21st Century Themes	_____ Global Awareness ___X__Financial, Economic, Business, and Entrepreneurial Literacy _____ Civic Literacy _____ Health literacy
21st Century Skills	__X___ Creativity and Innovation __X__ Critical Thinking and Problem Solving __X___ Communication and Collaboration _____ Information Literacy _____ Media Literacy __X___Life and Career Skills
Interdisciplinary Connections	**NJSLSA.W2.** Explanatory writing when responding to open response problems. **NJSLSA.R1.** Students must determine what text explicitly says when completing number stories, open response problems, and Math directions **CRP2.** Apply appropriate academic and technical skills when creating and completing math activities. **CRP8.** Utilize critical thinking to make sense of problems and persevere in solving them in differentiated individual/small group activities.
Integration of Technology	**8.1.2.A.1** Students must utilize and navigate a variety of digital programs and websites, including: BrainPOP Jr. videos on topics/content, IXL.org, aaamath.com, funbrain.com, xtramath.org. Math games may be projected on the Smartboard. Small group work can be completed through Smart Notebook and desktop Math Games.
Resources	**For teachers:** Everyday Math 4 - Unit 4 - Lessons 4.1 through 4.12, Math Masters. Differentiation Handbook, Math Game Kit, Teacher-created materials, Smartboard presentations, MathStart picture books, “Length” Math Counts picture book, “Pigs on a Blanket – Fun With Math and Time,” relevant differentiated activities **For students:** Student Reference Book (hard copy and online version), Math Journal, Family Letters, Home Links, Activity cards, Number line poster, Slates and markers, Base-ten blocks, Measuring tools (rulers, meter sticks), Analog and digital clocks, written directions for each activity
Integrated Accommodations and Modifications	**Modifications for Special Ed./504/At-Risk students :** -Follow I&RS and IEP goals/modifications -Small-group instruction with written/visual directions -Student Expert/Mentor peer assistance.

	-Sorting “Before-And-After Lunch Activities” to clarify AM and PM concept -Create a 3-digit placemat **Modifications for ELL students:** -Use concrete models for time and place value -Focus on vocabulary for time and place value using visual and physical representations -Use think-aloud statements to familiarize students with math terms -Text to Speech in IXL and other Math programs -Use visual aids such as vocabulary packets and picture cards to support concepts -Use body motions to “physically” hop on the number line -Provide visuals and pictures for math term -Teacher and peer modeling -ELL books with Spanish to English conversions -Lexia read-alouds and listening for foundational vocabulary skills to incorporate in to Math. - Razkids for Math books. -Create patterns with concrete objects **Modifications for Gifted and Talented students:** -Creating and writing more detailed number stories -Create Math activities -Assist and mentor students in need -Writing a PM to AM story (Read the book “Tuesday” by David Wiesner) -Creating 3-digit number combinations by manipulating place value

Subject Area: _____Math_____	
Grade Level: 2	Brief Summary of Unit: In this unit, children review addition and subtraction problems in the context of money and number stories. Students learn strategies for mentally adding and subtracting 10 and 100.
Unit Name: #5 – Addition and Subtraction	

Content/Objective	**Standards**	**Skills – SWBAT**	**Suggested Activities**	**Suggested Assessments**	**Pacing Guide**
Students will be able to… -Count coins and make change -Solve number	2.NBT.2 2.NBT.5 2.NBT.7 2.NBT.9	1. Develop fact power by using mental strategies to add two 1-digit numbers. 2. Review coin equivalencies and make different combinations of	1. Complete daily Mental Math and Math Message problems. (**Critical Thinking and Problem Solving)**	1. Self-assessments (warm ups) (formative) 2. Math Boxes (summative)	January (4 weeks)

stories -Add and subtract 10s and 100s -Use an open-number line	2.MD.2 2.MD.6 2.MD.7 2.MD.8 2.MD.9 2.OA.1 2.OA.2 2.OA.4	coins for the same amount of money. 3. Find coin combinations to pay for items and make change by counting up. 4. Make purchases and practice making change. 5. Develop strategies for mental adding and subtracting 10 and 100. 6. Use open number lines as a tool for solving number stories. 7. Solve change-to-more number stories. 8. Solve parts-and-total number stories. 9. Solve change number stories involving temperature.	2. Play “Beat the Calculator” to practice fact automaticity. 3. Use the “Pine School’s Fruit and Vegetable Sale” to practice making sales and purchases. 4. Play “Spinning for Money” (**Communication and Collaboration)** 5. Make coin combinations and identify the fewest possible coins needed. 6. Buy items with and without exact change. 7. “Adding Multi-digit Numbers” open response (**Critical Thinking and Problem Solving)** 8. Make “vending machine” purchases. 9. Introduce and play “Addition/Subtraction Spin” 10. Use open number line organizer to solve number stories. 11. Model and use the change-to-more strategy for number stories. 12. Model and use the parts-and-total diagram for solving number stories.	3. Math Journal pages (summative) 4. Open response problems **(Critical Thinking and Problem Solving) (summative)** 5. Task cards and mad minute activities (formative) 6. Teacher-created assessments (summative) 7. Exit tickets (formative) 8. Teacher observation checklist during mock shopping activities (formative) 9. Home Links (summative) 10. Summative Unit 5 Assessment **(Benchmark assessment)** 11. Exploration centers (making arrays, playing clock concentration, and making shapes) (**Life and Career Skills) (Creativity and Innovation) (formative)**	

			13. Use a thermometer to solve change number stories. 14. Differentiated work including small groups, individual work, games, teacher-directed studies, and student-directed studies. **(Communication and Collaboration, Life and Career Skills.)**		

Integrated Components

21st Century Themes	**_____** Global Awareness ___X__Financial, Economic, Business, and Entrepreneurial Literacy _____ Civic Literacy _____ Health literacy
21st Century Skills	__X___ Creativity and Innovation __X__ Critical Thinking and Problem Solving __X___ Communication and Collaboration _____ Information Literacy _____ Media Literacy __X___Life and Career Skills
Interdisciplinary Connections	**NJSLSA.W2.** Explanatory writing when completing open response problems. **NJSLSA.R1.** Students must determine what text explicitly says when completing number stories, open response problems, and Math directions. **CRP2.** Apply appropriate academic and technical skills when creating and completing math activities. **CRP8.** Utilize critical thinking to make sense of problems and persevere in solving them in differentiated individual/small group activities.
Integration of Technology	**8.1.2.A.1** Students must utilize and navigate a variety of digital programs and websites, including: BrainPOP Jr. videos on topics/content, IXL.org, aaamath.com, funbrain.com, xtramath.org. Math games may be projected on the Smartboard. Small group work can be completed through Smart Notebook and desktop Math Games.
Resources	**For teachers:** Everyday Math 4 - Unit 5 - Lessons 5.1 through 5.12, Math Masters, Differentiation Handbook, Math Game Kit, Teacher-created materials, Smartboard presentations, MathStart picture books, Relevant differentiated activities **For students:** Student Reference Book (hard copy and online version), Math Journal, Family Letters, Home Links, Activity cards, Number line, Slates and markers, Plastic coins and paper money, Copies of diagrams (parts-and-total, change-to-more, etc), Classroom thermometer, instructions for each activity
Integrated Accommodations and Modifications	**Modifications for Special Ed./504/At-Risk students :** -Follow I&RS and IEP goals/modifications

	-Small-group instruction with written/visual directions -Student expert/mentor assistance for peer collaboration -Counting up and back on a number grid -Allow use of calculator when applicable -Use counters to model addition and subtraction number stories -Use centimeter grid paper to create arrays representing number stories **Modifications for ELL students:** -Use of total physical response prompts -Use concrete models for concepts -Focus on vocabulary for addition and subtraction using visual and physical representations -Use visual aids and real-life examples to add and subtract with money -Use think-aloud statements to familiarize students with math terms -Text to Speech in IXL and other Math programs -Use visual aids such as vocabulary packets and picture cards to support concepts -Use body motions to “physically” hop on the number line -Provide visuals and pictures for math term -Teacher and peer modeling -ELL books with Spanish to English conversions -Lexia read-alouds and listening for foundational vocabulary skills to incorporate in to Math. - Razkids for Math books. -Create patterns with concrete objects **Modifications for Gifted and Talented students:** -Creating and writing more detailed number stories (change-to-more stories) -Create relevant math activities - Assist and mentor students in need -Using open number lines with larger numbers -Adding and subtracting 10s and 100s -Create number stories with a missing part/number (early algebra)

Subject Area: _____Math_____	
Grade Level: 2	Brief Summary of Unit: In this unit, children collect and display data on two different types of graphs. They are introduced to comparison and two-step number stories. Students share and record their own invented strategies for addition and learn a formal addition strategy.
Unit Name: #6 – Whole Number Operations and Number Stories	

Content/Objective	**Standards**	**Skills – SWBAT**	**Suggested Activities**	**Suggested Assessments**	**Pacing Guide**
Students will be able to… -Represent data in a picture graph. -Use part-part-total, change, and difference diagrams to organize and solve number stories. -Subtract two-digit numbers. -Identify what operation to use in a number story. -Make ballpark estimates for sums. -Use the partial-sums method for addition.	2.NBT.2 2.NBT.3 2.NBT.4 2.NBT.5 2.NBT.7 2.NBT.9 2.MD.1 2.MD.2 2.MD.4 2.MD.5 2.MD.6 2.MD.10 2.OA.1 2.OA.4 2.G.1	1. Represent data sets in graphs. 2. Solve comparison number stories. 3. Identifying diagrams to use for solving number stories. 4. Analyzing a number story to decide on a strategy and diagram to use. 5. Solve two-step number stories. 6. Use base-ten blocks to find partial-sums addition.	1. Complete daily Mental Math and Math Message problems. (**Critical Thinking and Problem Solving)** 2. Create a survey, record and tally data, and represent it using a picture and bar graph. **(Creativity and Innovation)** 3. Solve comparison number stories. 4. Play “Spinning for Money” (**Communication and Collaboration)** 5. Model and use specific diagrams for number stories. 6. Solving and writing “Silly Animal” number stories. **(Creativity and Innovation)** 7. “Subtracting with Base-10 Blocks” open response (**Critical Thinking and Problem Solving)** 8. Partners discuss	1. Self-assessments (warm ups) (formative) 2. Math Boxes (summative) 3. Math Journal pages (summative) 4. Open response problems **(Critical Thinking and Problem Solving) (summative)** 5. Task cards and mad minute activities (formative) 6. Teacher-created assessments (summative) 7. Exit tickets (formative) 8. Home Links (summative) 9. Summative Unit 6 Assessment **(Benchmark assessment)** 10. Exploration centers (build arrays on	February (4 weeks)

			strategies for solving two-step number stories. (**Communication and Collaboration)** 9. Use counting up, combining 10s and 1s, and making friendly numbers as strategies to solve addition number stories. 10. Make ballpark estimates for sums. 11. Add with base-ten blocks using the partial-sums method. 12. Estimate and add with partial-sums. 13. Differentiated work including small groups, individual work, games, teacher-directed studies, and student-directed studies. **(Communication and Collaboration, Life and Career Skills.)**	geoboards, measure and compare lengths, and create shapes) (**Life and Career Skills) (Creativity and Innovation) (formative)**	

Integrated Components

21st Century Themes	_____ Global Awareness ___X__Financial, Economic, Business, and Entrepreneurial Literacy _____ Civic Literacy _____ Health literacy
21st Century Skills	__X___ Creativity and Innovation __X__ Critical Thinking and Problem Solving __X___ Communication and Collaboration _____ Information Literacy _____ Media Literacy __X___Life and Career Skills
Interdisciplinary Connections	**NJSLSA.W2.** Explanatory writing when completing open response problems. **NJSLSA.R1.** Students must determine what text explicitly says when completing number stories, open response problems, and Math directions.

	CRP2. Apply appropriate academic and technical skills when creating and completing math activities. **CRP8.** Utilize critical thinking to make sense of problems and persevere in solving them in differentiated individual/small group activities.
Integration of Technology	**8.1.2.A.1** Students must utilize and navigate a variety of digital programs and websites, including: BrainPOP Jr. videos on topics/content, IXL.org, aaamath.com, funbrain.com, xtramath.org. Math games may be projected on the Smartboard. Small group work can be completed through Smart Notebook and desktop Math Games.
Resources	**For teachers:** Everyday Math 4 - Unit 6 - Lessons 6.1 through 6.11, Math Masters, Differentiation Handbook, Math Game Kit, Teacher-created materials, Smartboard presentations, MathStart picture books, relevant differentiated activities **For students:** Student Reference Book (hard copy and online version), Math Journal Family Letters, Home Links, Activity cards, Number grids (on desks), Slates and markers,Copies of diagrams (parts-and-total, change-to-more, etc), Grid paper for graphs, directions for each activity, differentiated activities
Integrated Accommodations and Modifications	**Modifications for Special Ed./504/At-Risk students :** -Follow I&RS and IEP goals/modifications -Small-group instruction with written/visual directions -Student expert/mentor assistance -Allow use of calculator when applicable -Use counters to model addition and subtraction number stories -Act out two-step number stories **Modifications for ELL students:** -Use of total physical response prompts -Use concrete models for concepts -Use visual aids and real-life examples to focus on vocabulary -Provide translations in the native language as applicable -Use think-aloud statements to familiarize students with math terms -Text to Speech in IXL and other Math programs -Use visual aids such as vocabulary packets and picture cards to support concepts -Use body motions to “physically” hop on the number line -Provide visuals and pictures for math term -Teacher and peer modeling -ELL books with Spanish to English conversions -Lexia read-alouds and listening for foundational vocabulary skills to incorporate in to Math. - Razkids for Math books. -Create patterns with concrete objects **Modifications for Gifted and Talented students:** -Creating and writing more detailed number stories (change-to-more stories)

	-Extend work with multi-digit addition -Writing more complex two-step number stories -Create an addition strategy poster

Subject Area: _____Math_____	
Grade Level: 2	Brief Summary of Unit: In this unit, children further explore addition and subtraction strategies and use them to add and subtract three or more numbers. They use units of yards and meter to measure distance. At the end of the unit, they will collect data and display it in a frequency table and a line plot.
Unit Name: #7 – Whole Number Operations and Measurement and Data	

Content/Objective	**Standards**	**Skills – SWBAT**	**Suggested Activities**	**Suggested Assessments**	**Pacing Guide**
Students will be able to… -Add 3 or more numbers -Measure objects to the nearest inch and centimeter -Complete a line plot -Use personal references to help estimate length -Use measuring tools correctly	2.NBT.1 2.NBT.1a 2.NBT.3 2.NBT.5 2.NBT.6 2.NBT.9 2.MD.1 2.MD.2 2.MD.3 2.MD.4 2.MD.6 2.MD.9 2.MD.10 2.OA.1 2.OA.2 2.G.1	1. Find differences between 2 digit numbers and multiples of 10. 2. Solve addition problems with three or more addends. 3. Measure with yards and meters. 4. Measure to the nearest centimeter and inch. 5. Generate and represent data. 6. Create a line plot for data. 7. Make a frequency table.	1. Complete daily Mental Math and Math Message problems. (**Critical Thinking and Problem Solving)** 2. Play “Hit the Target” in groups. **(Communication and Collaboration)** 3. Solve calculator change puzzles. (**Critical Thinking and Problem Solving)** 4. Solve bamboo plant number stories. 5. “Four or More Addends” open response (**Critical Thinking and Problem Solving)** 6. Partners play “Basketball	1. Self-assessments (warm ups) (formative) 2. Math Boxes (summative) 3. Math Journal pages (summative) 4. Open response problems **(Critical Thinking and Problem Solving) (summative)** 5. Task cards and mad minute activities (formative) 6. Teacher-created assessments (summative) 7. Exit tickets (formative) 8. Home Links	March (4 weeks)

			Addition" to solve addition problems with three or more addends. (**Communication and Collaboration)** 7. Measure items with a nonstandard unit. 8. Estimate and measure distances with a yardstick. 9. Estimate and measure lengths with a meter stick. 10. Collect and record arm span data. 11. Collect and record standing jump data. 12. Make a class line plot with post-it notes representing standing jump data**. (Creativity and Innovation)** 13. Solve subtraction number stories. 14. Record arm span measures and make a frequency table and line plot using the data. 15. Differentiated work including small groups, individual work, games, teacher-directed studies, and student-directed studies. **(Communication**	(summative) 9. Summative Unit 7 Assessment **(Benchmark assessment)** 10. Exploration centers (sort shapes, draw picture graph, measure body parts) (**Life and Career Skills) (Creativity and Innovation) (formative)**	

			and Collaboration, Life and Career Skills.)		

Integrated Components

21st Century Themes	**_____** Global Awareness __X___Financial, Economic, Business, and Entrepreneurial Literacy _____ Civic Literacy _____ Health literacy
21st Century Skills	__X___ Creativity and Innovation __X__ Critical Thinking and Problem Solving __X___ Communication and Collaboration _____ Information Literacy _____ Media Literacy __X___Life and Career Skills
Interdisciplinary Connections	**NJSLSA.W2.** Explanatory writing when completing open response problems. **NJSLSA.R1.** Students must determine what text explicitly says when completing number stories, open response problems, and Math directions. **CRP2.** Apply appropriate academic and technical skills when creating and completing math activities. **CRP8.** Utilize critical thinking to make sense of problems and persevere in solving them in differentiated individual/small group activities.
Integration of Technology	**8.1.2.A.1** Students must utilize and navigate a variety of digital programs and websites, including: BrainPOP Jr. videos on topics/content, IXL.org, aaamath.com, funbrain.com, xtramath.org. Math games may be projected on the Smartboard. Small group work can be completed through Smart Notebook and desktop Math Games.
Resources	**For teachers:** Everyday Math 4 - Unit 7 - Lessons 7.1 through 7.10, Math Masters, Differentiation Handbook, Math Game Kit, Teacher-created materials, Smartboard presentations, MathStart picture books, relevant differentiated activities **For students:** Student Reference Book (hardcopy and online version), Math Journal, Family Letters, Home Links, Activity cards, Number grids (on desks), Slates and markers, Grid paper for representing data using graphs, Measuring tools (ruler, meter stick, yard stick), directions for each activity, differentiated activities
Integrated Accommodations and Modifications	**Modifications for Special Ed./504/At-Risk students :** -Follow I&RS and IEP goals/modifications -Small-group instruction -Allow use of calculator when applicable -Reinforce selecting appropriate tools for measurement **Modifications for ELL students:** -Use of total physical response prompts -Use concrete models for concepts -Provide translations in the native language as applicable -Use think-aloud statements to familiarize students with math terms

	-Text to Speech in IXL and other Math programs -Use visual aids such as vocabulary packets and picture cards to support concepts -Use body motions to “physically” hop on the number line -Provide visuals and pictures for math term -Teacher and peer modeling -ELL books with Spanish to English conversions -Lexia read-alouds and listening for foundational vocabulary skills to incorporate in to Math. - Razkids for Math books. -Create patterns with concrete objects **Modifications for Gifted and Talented students:** -Play “Hit the Target” with any two or three digit number -Writing more complex two-step number stories -Add four two-digit numbers using spinners -Create a crooked path and use a meter stick to measure the length

Subject Area: _____Math_____	
Grade Level: 2	Brief Summary of Unit: In this unit, students explore 2- and 3-dimensional shapes and their attributes. They partition rectangles into rows and columns of same-size squares. At the end of the unit, they explore strategies for determining the total number of objects in equal groups and rectangular arrays.
Unit Name: #8 – Geometry and Arrays	

Content/Objective	**Standards**	**Skills – SWBAT**	**Suggested Activities**	**Suggested Assessments**	**Pacing Guide**
Students will be able to… -Find shapes that have a given number of sides and angles -Name shapes(triangles, quadrilaterals, pentagons, and hexagons) -Partition a rectangle into rows and columns -Find the total number of objects in an array -Write an addition number model for an array -Solve an array number story	2.NBT.2 2.OA.1 2.OA.4 2.G.1 2.G.2 2.G.3	1. Describe the attributes of 2-dimensional shapes. 2. Identify shapes that have certain attributes. 3. Build and compare various polygons. 4. Compare various 3-dimensional shapes according to their attributes. 5. Partition rectangles into same-size squares. 6. Solve number stories about equal groups and arrays. 7. Build equal groups and arrays and number models for them.	1. Complete daily Mental Math and Math Message problems. (**Critical Thinking and Problem Solving)** 2. Describe attributes of shapes. 3. Demonstrate and play "Shape Capture." (**Communication and Collaboration)** 4. Compare and contrast triangles, pentagons, and hexagons. 5. "Drawing and Reasoning about Quadrangles" open response. (**Critical Thinking and Problem Solving)** 6. Partners play "Target to 200." (**Communication and Collaboration)** 7. Describe and compare attributes of 3-dimensional shapes. 8. Draw a line plot.	1. Self-assessments (warm ups) (formative) 2. Math Boxes (summative) 3. Math Journal pages (summative) 4. Open response problems **(Critical Thinking and Problem Solving) (summative)** 5. Task cards and mad minute activities (formative) 6. Teacher-created assessments (summative) 7. Exit tickets (formative) 8. Home Links (summative) 9. Summative Unit 8 Assessment **(Benchmark assessment)** 10. Exploration centers (describe attributes of shapes, build	April (4 weeks)

			9. Draw a rectangle and partition it into equal squares. **(Creativity and Innovation)** 10. Solve equal-groups and array number stories. 11. Build equal groups and arrays. 12. Introduce and play "Array Concentration." 13. Differentiated work including small groups, individual work, games, teacher-directed studies, and student-directed studies. **(Communication and Collaboration, Life and Career Skills.)**	polygons with trapezoids, show fractions on a geoboard) (**Life and Career Skills) (Creativity and Innovation) (formative)**	

Integrated Components

21st Century Themes	_____ Global Awareness __X___Financial, Economic, Business, and Entrepreneurial Literacy _____ Civic Literacy _____ Health literacy
21st Century Skills	__X___ Creativity and Innovation __X__ Critical Thinking and Problem Solving __X___ Communication and Collaboration _____ Information Literacy _____ Media Literacy __X___Life and Career Skills
Interdisciplinary Connections	**NJSLSA.W2.** Explanatory writing when completing open response problems. **NJSLSA.R1.** Students must determine what text explicitly says when completing number stories, open response problems, and Math directions. **CRP2.** Apply appropriate academic and technical skills when creating and completing math activities. **CRP8.** Utilize critical thinking to make sense of problems and persevere in solving them in differentiated individual/small group activities.
Integration of Technology	**8.1.2.A.1** Students must utilize and navigate a variety of digital programs and websites, including: BrainPOP Jr. videos on topics/content, IXL.org, aaamath.com, funbrain.com, xtramath.org. Math games may be projected on the Smartboard. Small group work can be completed through Smart Notebook and desktop Math Games.
Resources	**For teachers:**

	Everyday Math 4 - Unit 8 - Lessons 8.1 through 8.11, Math Masters, Differentiation Handbook, Math Game Kit, Teacher-created materials, Smartboard presentations, “Shape Up” by David Adler, “Each Orange Had 8 Slices: A Counting Book” by Paul Giganti, “The Greedy Triangle” by Marilyn Burns, relevant differentiated activities **For students:** Student Reference Book (hard copy and online version), Math Journal, Family Letters, Home Links, Activity cards, Number grids (on desks), Slates and markers, Collection of three-dimensional shapes, Attribute blocks, Two-dimensional shape chart, Grid partition for partitioning rectangles and arrays, directions for each activity, differentiated activities
Integrated Accommodations and Modifications	**Modifications for Special Ed./504/At-Risk students :** -Follow I&RS and IEP goals/modifications -Small-group instruction -Complete partner activities to sort pattern blocks -Playing “Touch and Match” with various shapes -Play “Simon Says” to make equal rows using concrete models **Modifications for ELL students:** -Use of total physical response prompts -Use concrete models for concepts -Provide translations in the native language as applicable -Use think-aloud statements to familiarize students with math terms -Text to Speech in IXL and other Math programs -Use visual aids such as vocabulary packets and picture cards to support concepts -Use body motions to “physically” hop on the number line -Provide visuals and pictures for math term -Teacher and peer modeling -ELL books with Spanish to English conversions -Lexia read-alouds and listening for foundational vocabulary skills to incorporate in to Math. - Razkids for Math books. -Create patterns with concrete objects **Modifications for Gifted and Talented students:** -Solve shape riddles -Writing number stories for equal groups and arrays -Partitioning rectangles without tools -Describe faces on a cube

Subject Area: _____Math_____	
Grade Level: 2	Brief Summary of Unit: In this unit, children partition shapes into equal shares and apply these ideas to further explore length measurement. They also learn a new subtraction strategy based on place-value and continue working with equal groups.
Unit Name: #9 – Equal Shares and Whole Number Operations	

Content/Objective	**Standards**	**Skills – SWBAT**	**Suggested Activities**	**Suggested Assessments**	**Pacing Guide**
Students will be able to… -Divide shapes into equal shares -Measure the lengths of objects -Write 3-digit numbers in expanded form -Use <, >, or = to compare 3-digit numbers -Solve number stories about equal groups -Solve 2-digit subtraction problems	2.NBT.1 2.NBT.1a 2.NBT.1b 2.NBT.3 2.NBT.4 2.NBT.5 2.NBT.6 2.NBT.7 2.NBT.8 2.NBT.9 2.OA.1 2.OA.2 2.OA.3 2.OA.4 2.G.3 2.MD.4 2.MD.6 2.MD.8	1. Divide shapes and use fraction vocabulary to name the shares. 2. Measure lengths to the nearest half inch. 3. Write multi-digit numbers in expanded form and compare them. 4. Use base-ten block to solve subtraction problems. 5. Use expand-and-trade subtraction to subtract multi-digit numbers. 6. Find coin and bill combinations with equivalent values. 7. Use cents and dollars in cent notation. 8. Solver number stories about 2 equal groups. 9. Skip count and add to solve problems involving multiples of 10 and 5.	1. Complete daily Mental Math and Math Message problems. (**Critical Thinking and Problem Solving)** 2. Fold squares out of paper and name 2, 4, and 3 equal shares. 3. Demonstrate and play “Array Concentration.” (**Communication and Collaboration)** 4. Introduce precise measurements and measure objects to the nearest half-inch. (**Life and Career Skills)** 5. “Sharing Muffins” and “Estimating Costs” open responses. (**Critical Thinking and Problem Solving)** 6. Represent and compare multi-digit numbers.	1. Self-assessments (warm ups) (formative) 2. Math Boxes (summative) 3. Math Journal pages (summative) 4. Open response problems **(Critical Thinking and Problem Solving) (summative)** 5. Task cards and mad minute activities (formative) 6. Teacher-created assessments (summative) 7. Exit tickets (formative) 8. Home Links (summative) 9. Summative Unit 9 Assessment (**Benchmark assessment)**	May/June (6 weeks)

			7. Play “Shape Capture.” (**Communication and Collaboration) (Creativity and Innovation)** 8. Subtract with base-ten blocks to show trades. 9. Draw a line plot. 10. Introduce and practice with the expand-and-trade subtraction strategy. 11. Partners discuss and compare subtraction strategies **(Communication and Collaboration)** 12. Use dollars-and-cents notation. (**Life and Career Skills)** 13. Create equivalent amounts with coins and bills. (**Life and Career Skills)** 14. Use arrays to create addition and multiplication number models. 15. Show the relationship between addition and multiplication and practice with multiples of 5 and 10. 16. Differentiated work including small groups,	10. Exploration centers (equal shares of different shapes, use pattern blocks to divide shapes, make a number line) (**Life and Career Skills) (Creativity and Innovation) (formative)**	

			individual work, games, teacher-directed studies, and student-directed studies. **(Communication and Collaboration, Life and Career Skills.)**		

Integrated Components

21st Century Themes	**_____** Global Awareness ___X__Financial, Economic, Business, and Entrepreneurial Literacy _____ Civic Literacy _____ Health literacy
21st Century Skills	__X___ Creativity and Innovation __X__ Critical Thinking and Problem Solving __X___ Communication and Collaboration _____ Information Literacy _____ Media Literacy __X___Life and Career Skills
Interdisciplinary Connections	**NJSLSA.W2.** Explanatory writing when completing open response problems. **NJSLSA.R1.** Students must determine what text explicitly says when completing number stories, open response problems, and Math directions. **CRP2.** Apply appropriate academic and technical skills when creating and completing math activities. **CRP8.** Utilize critical thinking to make sense of problems and persevere in solving them in differentiated individual/small group activities.
Integration of Technology	**8.1.2.A.1** Students must utilize and navigate a variety of digital programs and websites, including: BrainPOP Jr. videos on topics/content, IXL.org, aaamath.com, funbrain.com, xtramath.org. Math games may be projected on the Smartboard. Small group work can be completed through Smart Notebook and desktop Math Games.
Resources	**For teachers:** Everyday Math 4 - Unit 9 - Lessons 9.1 through 9.12, Math Masters, Differentiation Handbook, Math Game Kit, Teacher-created materials, Smartboard presentations, “Pizza Fractions” by Jerry Pallotta, relevant differentiated activities. **For students:** Student Reference Book (hard copy and online version), Math Journal, Family Letters, Home Links, Activity cards, Number grids (on desks), Slates and markers, Fraction cards, directions for each activity, differentiated activities

Integrated Accommodations and Modifications	**Modifications for Special Ed./504/At-Risk students :** -Follow I&RS and IEP goals/modifications -Small-group instruction -Play “Fraction Bingo” for extra practice -Fold paper pizzas into two equal halves -Build base-ten buildings to count accurately -Subtract using base-10 blocks -Use different coin combinations to make a dollar **Modifications for ELL students:** -Use of total physical response prompts -Use concrete models for concepts -Provide translations in the native language as applicable -Use think-aloud statements to familiarize students with math terms -Text to Speech in IXL and other Math programs -Use visual aids such as vocabulary packets and picture cards to support concepts -Use body motions to “physically” hop on the number line -Provide visuals and pictures for math term -Teacher and peer modeling -ELL books with Spanish to English conversions -Lexia read-alouds and listening for foundational vocabulary skills to incorporate in to Math. - Razkids for Math books. -Create patterns with concrete objects **Modifications for Gifted and Talented students:** -Read Ed Emberly’s “Picture Pie: A Cut and Paste Drawing Book” to name equal parts found in literature -Compare large lengths of various objects -Explore place value to the thousands -Subtract 3-digit numbers from 4-digit numbers using base-10 blocks -Plan a picnic to apply understanding of solving problems involving money

Mine Hill Township School District

(3rd Gr/Math)

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Approval date:
October 26, 2020

Mine Hill Township School District
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Mine Hill, NJ 07803
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Subject Area: Mathematics	
Grade Level: 3	Brief Summary of Unit: Students will use a variety of math tools to solve problems, tell time to the nearest minute, use mathematical models to calculate elapsed time, interpret data, and develop multiplication and division strategies.
Unit: 1 Routines, Tools, and Mathematical Models	

Content/Objective	**Standards**	**Skills – SWBAT**	**Suggested Activities**	**Suggested Assessments**	**Pacing Guide**
Students will: ● represent and solve problems involving multiplication & division. ● use place value understanding and properties of operations to perform multi-digit arithmetic. ● solve problems involving measurement and estimation of intervals of time, liquid, volumes, and masses of objects. ● Interpret	3.NBT.1-3 3.MD.1-4 3.G1-2 3.OA.1-3, 6,7 3.NF.1	● Use number grids patterns for computation ● Review and use a variety of math tools ● Use open number lines to round numbers ● Tell time to the nearest minute and calculate elapsed time ● Represent and interpret data on scaled bar graphs ● Use drawings and number models to represent and solve multiplication number stories ● Build a foundation related to solving division number stories ● Learn and develop strategies for the 2s,5s and 10s facts ● Compare masses of objects ● Divide wholes and sets into equal shares ● Estimate masses of objects ● Interpret whole-number quotients or whole numbers, e.g., interpret 56 ÷ 8 as the number of objects in each share when 56 objects are	● Create a math journal ● Use a number grid to find differences ● Practice telling time, measuring line segments, using a calculator, and pattern block template ● Use a meter stick to aid in rounding whole numbers (Group activity) ● Use a number line to determine elapsed time ● Introduce concept of responding to open response problem ● Gather data and use data to create tally charts and bar graphs ● Use drawings and number models to solve multiplication number stories ● Use counters and pictures to develop number models and	● Math Message (formative) ● End of unit test **(Benchmark assessment)** ● Oral assessments (formative) ● Teacher created assessments (summative) ● Math Journals (summative) ● Student self-assessment survey (formative)	4 weeks (September)

data on bar graphs		partitioned equally into 8 shares, or as a number of shares when 56 objects are partitioned into equal shares of 8 objects each. For example, describe and/or represent a context in which a number of shares or a number of groups can be expressed as 56 ÷ 8. ● Interpret products of whole numbers, e.g., interpret 5 x 7 as the total number of objects in 5 groups of 7 objects each. For example, describe and/or represent a context in which a total number of objects can be expressed as 5 x 7. 3 3.OA.2 Interpret whole-number quotients or whole numbers, e.g., interpret 56 ÷ 8 as the number of objects in each share when 56 objects are partitioned equally into 8 shares, or as a number of shares when 56 objects are partitioned into equal shares of 8 objects each. For example, describe a context in which a number of shares or a number of groups can be expressed as 56 ÷ 8.	solve division number stories (Group activity) ● Use dimes and nickels to develop strategies related to 5s and 10s facts ● Activity Task Card #16- Practice dividing wholes and sets into equal groups (Group activity) **(Communication and Collaboration)** ● After reading one of the books below, students will use counters and divide into equal groups and/or groups w/a remainder. **(Communication and Collaboration)**		

Integrated Components

21st Century Themes	_____ Global Awareness __X___Financial, Economic, Business, and Entrepreneurial Literacy _____ Civic Literacy

	_____ Health literacy
21st Century Skills	_____ Creativity and Innovation _____ Critical Thinking and Problem Solving ___X__ Communication and Collaboration _____ Information Literacy _____ Media Literacy _____Life and Career Skills
Interdisciplinary Connections	**NJSLSA.R1.Read THE DOORBELL RANG and A REMAINDER OF ONE** **NJSLSA W.3.2.**: use of explanatory writing to defend and explain critical thinking. **CRP4.** Communicate clearly and effectively and with reason when explaining work or collaborating with peers. **CRP2**. Apply appropriate academic and technical skills when completing written and digital tasks/activities
Integration of Technology	**8.1.5.A.1- Appropriately use digital tools when using Math websites and games:** www.aaamath.com, www.funbrain.com, www.edmathonline.com (games), smartboard
Resources	For Teachers: Everyday Math 4 (Guides, Game Kit, Online resources, Teacher created smartboard presentations For Students: EDM 4 Student Reference Book, Math tool kit, Manipulatives, EDM4 Online student resources(games, algorithms)
Integrated Accommodations and Modifications	Modifications for Special Ed./504/At-Risk students : Group work w/teacher and/or classmates, EDM Readiness Math Master page(s), manipulatives for specific skills Modifications for ELL students: Provide visuals/pictures for math terms and concepts, manipulatives Modifications for Gifted and Talented students: EDM enrichment activities,(Completing Calculator Puzzles w/Negative Numbers)

Subject Area: **Mathematics**	
Grade Level: 3rd Unit 2 Number Stories and Arrays	Brief Summary of Unit: Students will make sense of one and two step number stories using all four arithmetic operations; model situations with diagrams, arrays, pictures, words and number models; and improve their problem-solving strategies and understanding through sharing, comparing and interpreting representations.

Content/Objective	**Standards**	**Skills – SWBAT**	**Suggested Activities**	**Suggested Assessments**	**Pacing Guide**
Students will: ● represent and solve multiplication and division problems ● solve problems with four operations; identify and explain arithmetic patterns ● use place value knowledge and properties of operations to solve multi-digit arithmetic problems	3.NBT.2 SMP1-8 3.OA.1-10 3.NF.1 3.G.2 3.MD.2, 5, 5a, 5b, 6	● Solve problems with larger numbers using basic addition and subtraction ● Solve number stories using diagrams, pictures, and other representations ● Solve two-step number stories and use two operations ● Solve multiples of equal groups ● Interpret products of whole numbers, e.g., interpret 5 x 7 as the total number of objects in 5 groups of 7 objects each. For example, describe and/or represent a context in which a total number of objects can be expressed as 5 x 7. ● Make sense of facts of 0s & 1s ● Solve array problems ● Solve division problems using representations and discuss results ● Interpret whole-number quotients or whole numbers, e.g., interpret 56 ÷ 8 as the number of objects in each	● Use math journal to record math vocabulary terms ● Complete fact extension sets on slates and use number grids ● Use parts/whole diagrams and manipulatives to solve one and two step number stories—make sense of different strategies, discuss and analyze and revise mistakes in solutions **(L&CS) (Communication and Collaboration) (Critical Thinking and Problem Solving)** ● Practice rounding of whole #s to nearest ten and hundred. ● Group work-Use play money to shop for snacks using a vending machine poster.	● Math Messages (formative) ● End of unit test **(Benchmark assessment)** ● Cumulative Assessment (summative) ● Oral assessments (formative) ● Teacher created assessments (summative) ● Math Journals (summative) ● Student self-assessment surveys (formative)	4 weeks (October)

		share when 56 objects are partitioned equally into 8 shares, or as a number of shares when 56 objects are partitioned into equal shares of 8 objects each. For example, describe and/or represent a context in which a number of shares or a number of groups can be expressed as 56 ÷ 8. ● Learn about remainders in division ● Explore patterns of even and odd numbers ● Solve Frames and Arrows diagrams using the four operations ● Explore liquid volume, areas, and fraction circles	Estimate cost and calculate exact cost. **(Financial, Economic, Business, and Entrepreneurial Literacy)** **(Communication and Collaboration)** ● Practice facts of 0 and 1 using web based sites ● Use arrays to represent number stories and write corresponding number models ● Group work-Use coins to represent equal sharing groups (division) **(Communication and Collaboration)** ● Sketch pictures/arrays to explore even and odd patterns and play Division Arrays game to reinforce division, and identify odd and even numbers ● Complete frames and arrows problems and share strategies for solving for missing numbers –identify patterns in place value. **(Communication and Collaboration)** ● Use fraction circles to		

			name fraction units ● Use Activity Card 32-33 to measure area and liquid volume		

Integrated Components

21st Century Themes	_____ Global Awareness _X____Financial, Economic, Business, and Entrepreneurial Literacy _____ Civic Literacy _____ Health literacy
21st Century Skills	_____ Creativity and Innovation ____X_ Critical Thinking and Problem Solving ___X__ Communication and Collaboration _____ Information Literacy _____ Media Literacy ___X__Life and Career Skills
Interdisciplinary Connections	**NJSLSA RI3.1 –**Group discussions **W.3.2**-writing to convey ideas Life and Career – **9.1.4.E.2** Identify wants and needs. **NJSLSA W.3.2.**: use of explanatory writing to defend and explain critical thinking. **CRP4.** Communicate clearly and effectively and with reason when explaining work or collaborating with peers. **CRP2**. Apply appropriate academic and technical skills when completing written and digital tasks/activities
Integration of Technology	**8.1.5.A.1- Appropriately use digital tools when using Math websites and games:** www.aaamath.com, www.funbrain.com, www.edmathonline.com (games), smartboard
Resources	For Teachers: Everyday Math 4 (Guides, Game Kit, Online resources, Teacher created smartboard presentations, For Students: EDM 4 Student Reference Book, Math tool kit, Manipulatives, EDM4 Online student resources(games, algorithms)
Integrated Accommodations and Modifications	Modifications for Special Ed./504/At-Risk students: Group work w/teacher and/or classmates, EDM Readiness Math Master page(s), manipulatives for arrays and counting money Modifications for ELL students: Provide visuals/pictures for math terms and concepts, manipulatives Modifications for Gifted and Talented students: EDM enrichment activities, challenging multi-step word problems

Subject Area: **Mathematics**	
Grade Level: 3rd	Brief Summary of Unit: Students will use place values in order to practice solving problems that involve 2 and 3 digit numbers. They will solve by using arrays to represent multiplication, develop other strategies for multiplication.
Unit 3: Number Stories using Place Value and the Four Operations	

Content/Objective	**Standards**	**Skills – SWBAT**	**Suggested Activities**	**Suggested Assessments**	**Pacing Guide**
Students will: ● Solve problems using multiplication and division ● Multiply and divide within 100 ● Using four operations, solve, identify, and explain patterns in arithmetic ● Perform multi-digit arithmetic using place value knowledge	3.OA. 1, 3-5, 7-9 3.NBT.1,2 SMP1-8 3.MD.3, 5, 5a, 5b, 6, 7, 7a, 3.G.2	● Find rules and missing numbers for "What's My Rule" tables. ● Use mental math to make estimates, check, and revise work. ● Be able to use Partial-Sums Addition method and column addition ● Review counting up subtraction ● Interpret products of whole numbers, e.g., interpret 5 x 7 as the total number of objects in 5 groups of 7 objects each. For example, describe and/or represent a context in which a total number of objects can be expressed as 5 x 7. 3 ● Interpret whole-number quotients or whole numbers, e.g., interpret 56 ÷ 8 as the number of objects in each share when 56 objects are partitioned equally into 8 shares, or as a number of shares when 56 objects are partitioned into equal shares of 8 objects each.	● Add math terms to math journal ● Complete mixed operations- *What's My Rule?* tables and discuss the patterns on each table **(Communication and Collaboration)** ● **Group work –**Students will discuss estimation strategies in order to solve 2 step number stories. Students will use a rubric guide and revise their work. **(Critical Thinking and Problem Solving)(L&CS)** ● Show ED Math video on partial sums addition. Use slates to calculate the sum of 2 and 3 digit addends using the partial-sum addition ● Use ixl.com to solve word problems involving 3 or more numbers(column	● Math Messages (formative) ● End of unit test **(Benchmark assessment)** ● Oral assessments (formative) ● Teacher created assessments (summative) ● Math Journals (summative) ● Student self-assessment survey (formative) ● Open Response Assessment (summative)	3 ½ weeks (November)

		For example, describe a context in which a number of shares or a number of groups can be expressed as 56 ÷ 8. ● Write numbers in expanded form ● Explore various methods to measure area and partition rectangles ● Explore how to represent data on bar graph ● Create scaled picture graphs ● Discover multiplication squares	addition) and complete activity card # 37 ● Use open number line to model the counting-up subtraction strategy and write number sentences. ● Reinforce place value by having students rewrite numbers in expanded form ● Partner work-Use activity card#42 and measure the area of a rectangular surface**(Critical Thinking and Problem Solving)** Have children discuss how this activity can be related to real world experiences **(L&CS) (Communication and Collaboration)** ● Partner work-Use Activity card #41. Sort pattern blocks by shape and create a scaled bar graph to show the data**.(Communication and Collaboration)** ● Partner work-Use SRB to read about picture graphs. Use Activity card # 43. -- Collect data and		

		• Learn the multiplication rule for turn-around facts-Commutative Property of Multiplication • In order to solve for unknown multiplication facts, students will learn adding-a-group strategy • Develop a strategy for solving subtracting-a group • Determine equivalent names for numbers using all four operations	then represent data by creating a scaled picture graph. Ask and answer student created questions about the data on the graph**. (Communication and Collaboration) (Critical Thinking and Problem Solving) (Creativity and Innovation)** • Create arrays with cubes to model equal factors /multiplication squares • In Math Journals, begin a multiplication strategy log (on-going activity) • Learn about the communicative property of multiplication by creating arrays. Use a multiplication/division table to make sense of the facts table by modeling how to find products. Show turn around facts on the table. • Use counters to create arrays and use the arrays to “add a group” or		

			"subtract a group" to obtain the product of an unknown multiplication fact.		

Integrated Components

21st Century Themes	_____ Global Awareness ___X__Financial, Economic, Business, and Entrepreneurial Literacy _____ Civic Literacy _____ Health literacy
21st Century Skills	___X__ Creativity and Innovation __X___ Critical Thinking and Problem Solving ____X_ Communication and Collaboration _____ Information Literacy _____ Media Literacy __X___Life and Career Skills
Interdisciplinary Connections	**SL RI3.1** –Group discussions Life and Careers – **9.1.4.B.3, 9.1.4.B.5, 9.1.4.C.1, 9.1.4.E.2** Understanding, applying, and distinguishing between different forms of money. **NJSLSA W.3.2.**: use of explanatory writing to defend and explain critical thinking. Read SEA SQUARES-write a paragraph that connects the book to a math concept **CRP4.** Communicate clearly and effectively and with reason when explaining work or collaborating with peers. **CRP2**. Apply appropriate academic and technical skills when completing written and digital tasks/activities.
Integration of Technology	**8.1.5.A.1- Appropriately use digital tools when using Math websites and games:** www.aaamath.com, www.funbrain.com, www.edmathonline.com (games), smartboard
Resources	For Teachers: Everyday Math 4 (Guides, Game Kit, OnLine resources, Teacher created smartboard presentations For Students: EDM 4 Student Reference Book, Math tool kit, Manipulatives, EDM4 Online student resources(games, algorithms)www.everydaymathonline.com, activity cards
Integrated Accommodations and Modifications	Modifications for Special Ed./504/At-Risk students : Group work w/teacher and/or classmates, EDM Readiness Math Master page(s), manipulatives for specific skills, provide fewer pattern block shapes for scaled bar graph activity Modifications for ELL students: Provide visuals/pictures for math terms and concepts, manipulatives, and role play to scaffold explanations of task directions and vocabulary terms. Modifications for Gifted and Talented students: provide more pattern block shapes for scaled bar graph activity, have children evaluate expressions to determine whether they are equivalent. Write equivalent names using all 4 operations.

Subject Area: Mathematics	
Grade Level:3	Brief Summary of Unit: Students will reinforce linear measurement skills. They will generate measurement data and represent it on a scaled line plot. Students will explore geometric attributes of polygons and classify quadrilaterals into categories based on their attributes. They will identify and measure the perimeters of polygons, and demonstrate the difference between perimeter and area. They develop multiple strategies to determine the areas of rectangles and extend those ideas to determine the areas of rectilinear shapes
Unit : 4 Measurement and Geometry	

Content/Objective	**Standards**	**Skills – SWBAT**	**Suggested Activities**	**Suggested Assessments**	**Pacing Guide**
Students will: ● represent and interpret data. ● understand concepts of area and relate area to multiplication and to addition. ● recognize perimeter as an attribute of plane figures and distinguish between linear and area measures. ● reason with shapes and their attributes	3.MD.2-4 3.MD. 5 a,b 3.MD.6 3. MD.7 a,b,c,d 3.MD.8 3.G.1 3.OA.1 3.OA.2 3.OA.3 3.OA.6 3.OA.7 3.OA.8 3.NBT.2 3. NF.2.a. 3. NF.2.b	● measure to the nearest half inch and centimeter ● generate measurement data and represent the data on a line plot. ● measure distances around objects to the nearest ½ inch, compare masses, and determine distances in half-inch increments. ● Interpret products of whole numbers, e.g., interpret 5 x 7 as the total number of objects in 5 groups of 7 objects each. For example, describe and/or represent a context in which a total number of objects can be expressed as 5 x 7. ● Interpret whole-number quotients or whole numbers, e.g., interpret 56 ÷ 8 as the number of objects in each share when 56 objects are partitioned equally into 8 shares, or as a number of shares when 56 objects are partitioned into equal shares of 8 objects each. For example, describe and/or represent a	● add math vocabulary to math journal ● Display different rulers on smartboard and have children identify the intervals on each ruler. The students will measure line segments to the nearest inch and/or centimeter. ● Gather data, such as shoe sizes, and create a line plot. ● Determine the correct measuring tool and find the circumference of objects. ● Partner work-Use Activity card # 54. Explore finding the mass of various objects. Write expressions that compare the mass of 2 objects. ● Partner work- Activity card # 55-- Students will use a ruler to measure the distances between 2 places. **(Communication and Collaboration)**	● Math Messages (formative) ● End of unit test **(Benchmark assessment)** ● Oral assessments (formative) ● Teacher created assessments (summative) ● Math Journals (summative) ● Student self-assessment surveys(formative) ● Mid Year Assessment **(Benchmark Assessment)**	4 weeks (January)

		context in which a number of shares or a number of groups can be expressed as 56 ÷ 8. ● review characteristics of polygons ● classify quadrilaterals ● identify and measure perimeters of rectangles and other polygons ● distinguish between perimeter and area ● find the area of a rectangle by using composite units ● find areas of rectangles and write matching number sentences. ● develop strategies for finding area and perimeter ● Measure areas by counting unit squares (square cm, square m, square in, square ft, and non-standard units). ● create and use models to solve area word problems ● find areas of rectilinear figures	● Use a set of shape cards and discuss attributes/characteristics of the shapes. Play the game-What's My Polygon Rule? to classify polygons. ● Provide set of Quadrilateral Cutouts. Partners will display any 2 quadrilaterals. They will discuss and record the similarities and differences of the shapes. ● Use pre-drawn polygons and use a ruler to measure each side and find the perimeter. Write an expression to prove the solution. ● Have students draw various sized rectangles on grid paper. Calculate the perimeter and the area. Write the expressions used to find each measurement. ● Using 5, paper-created 1 foot squares, students will tile a 5X8 foot rectangle taped out on the classroom floor and find the area of the rectangle. They will create a plan to determine the area using a composite unit. **(Communication and Collaboration) (Critical Thinking and Problem Solving)**		

			● Play THE AREA AND PERIMETER GAME to develop strategies for find area and perimeter. ● Solve an Open Response Problem—*Build a Rabbit Pen. Use* models of a rabbit pen and identify possible side lengths of a rectangle w/ a specific perimeter. Compare models and give explanations for the model they created. **(Communication and Collaboration) (Critical Thinking and Problem Solving) (Life and Career Skills)** ● Display a rectilinear figure on a smartboard grid. Work with the class to create a plan to find the area of the figure. Then partners will work together to find the area of animal pens. **(Communication and Collaboration) (Critical Thinking and Problem Solving) (Life and Career Skills)**		

Integrated Components

21st Century Themes	_____ Global Awareness __X__Financial, Economic, Business, and Entrepreneurial Literacy _____ Civic Literacy _____ Health literacy
21st Century Skills	_____ Creativity and Innovation ___X__ Critical Thinking and Problem Solving __X___ Communication and Collaboration _____ Information Literacy _____ Media Literacy _X____Life and Career Skills
Interdisciplinary Connections	**6.6.4 A.2** -use distance scales and rulers to determine the distance between places **NJSLSA W.3.2.**: use of explanatory writing to defend and explain critical thinking. **CRP4.** Communicate clearly and effectively and with reason when explaining work or collaborating with peers. **CRP2**. Apply appropriate academic and technical skills when completing written and digital tasks/activities.
Integration of Technology	**8.1.5.A.1- Appropriately use digital tools when using Math websites and games:** www.aaamath.com, www.funbrain.com, www.edmathonline.com (games), smartboard tools such as digital rulers and grid paper.__
Resources	For Teachers: Everyday Math 4 (Guides, Game Kit, Online resources, Teacher created smartboard presentations, For Students: EDM 4 Student Reference Book, Math tool kit, Manipulatives, EDM4 Online student resources(games, algorithms)
Integrated Accommodations and Modifications	Modifications for Special Ed./504/At-Risk students : Group work w/teacher and/or classmates, EDM Readiness Math Master page(s), manipulatives for finding area, perimeter, and solving word problems Modifications for ELL students: Provide visuals/pictures for math terms and concepts, aide students in finding examples of math terms in the classroom Modifications for Gifted and Talented students: EDM enrichment activities, challenging rectilinear figure area problems

Subject Area: Mathematics	
Grade Level: 3	Brief Summary of Unit: The students will relate their part-whole understanding of fractions to visual and symbolic representations (including standard notation) They will start to explore fraction equivalence. Students will continue to develop multiplication fact strategies by working from known facts to finding unfamiliar products by using arrays, area models, and properties of multiplication.
Unit: 5 Fractions	

Content/Objective	Standards	Skills – SWBAT	Suggested Activities	Suggested Assessments	Pacing Guide
Students will: ● develop an understanding of fractions as numbers ● understand concepts of area and relate area to multiplication and to addition. ● multiply and divide within 100.	3.OA.1 3.OA.3,5,7, 9 3.NF.1 3.MD.7 a-d	● represent fractions as equal parts of different wholes, and find all shapes with a given area ● represent fractions using standard notation, words, and drawings ● recognize equivalent fractions using a visual fraction model ● Interpret products of whole numbers, e.g., interpret 5 x 7 as the total number of objects in 5 groups of 7 objects each. For example, describe and/or represent a context in which a total number of objects can be expressed as 5 x 7. 3 ● use known multiplication facts to solve harder multiplication facts ● explore the use of doubling to solve number stories involving area and to solve multiplication facts ● identify and explain arithmetic patterns using properties of operations	● create a fraction number line poster ● add math vocabulary to math journal ● Use fraction card pieces to write fractional expressions, and locate fractional cards for a given area ● Display the Representing Fractions chart to help children connect fraction words, standard notation, and pictures. Students will complete the chart. ● Use fraction pieces and name collection boxes to record equivalent fractions ● Read Math Journal and review strategies (add a group, subtract a group) for using known facts to solve harder facts. ● *Use e presentation S3.*	● End of unit test (Summative) **(Benchmark assessment)** ● Oral assessments(Formative) ● Teacher created assessments (Summative) ● Open response assessment (Summative)	3 weeks (February)

		● find missing factors ● use square products to find products of near squares ● solve word problems, compare solutions and explanations and revise their work. ● decompose factors to solve multiplication facts.	Students will use counters to create arrays for multiplication facts and decompose the array in half to illustrate how to use doubles to solve some multiplication facts. **(Critical Thinking and Problem Solving)** ● Children will explore doubling a smaller rectangular area to find the area of a larger rectangle. They will use sketches to help visualize the growing areas and model doubling as a strategy for solving new facts. **(Critical Thinking and Problem Solving)** ● Display on the smartboard a multiplication/ division chart. With a partner identify patterns for factors of 5 and 9. Explain how these patterns can help determine the product of a multiplication fact. ● Use triangle cards to find missing factors. Play *Salute* to reinforce finding missing factors. **(Communication and**		

			Collaboration) ● Model shading the multiplication squares with one color on a copy of the Multiplication Facts Chart and invite children to do the same on their chart. Use these facts and the "add a group" or "subtract a group" strategy to solve "near square" fact problems ● **Games-** --Fraction Memory --Multiplication Draw --Salute --Area and Perimeter Game(See SRB for directions) **(Communication and Collaboration)** ● Read the **book The Hershey's Book of Fractions** and then the students can create their own candy bars out of clay. Each group can divide their "candy bars" into different fractional parts and share results with the class. **(Communication and Collaboration) (Critical Thinking and**		

			Problem Solving)		

Integrated Components

21st Century Themes	**__X___** Global Awareness _____Financial, Economic, Business, and Entrepreneurial Literacy _____ Civic Literacy _____ Health literacy
21st Century Skills	_____ Creativity and Innovation ___X__ Critical Thinking and Problem Solving ___X__ Communication and Collaboration _____ Information Literacy _____ Media Literacy _____Life and Career Skills
Interdisciplinary Connections	**NJSLSA.R1.Read The Hershey's Book of Fractions**, After reading the book, students can create their own candy bars out of clay and groups can divide them up into various fractional parts. **NJSLSA W.3.2.**: use of explanatory writing to defend and explain critical thinking. **CRP4.** Communicate clearly and effectively and with reason when explaining work or collaborating with peers. **CRP2**. Apply appropriate academic and technical skills when completing written and digital tasks/activities.
Integration of Technology	**8.1.5.A.1- Appropriately use digital tools when using Math websites and games:** www.aaamath.com, www.funbrain.com, www.edmathonline.com (games), smartboard www.ixl.org, online math games displayed on smartboard (whole class activity), www.edmathonline.com, **Fraction Circles eTool (EDMath)**
Resources	For Teachers: Everyday Math 4 (Guides, Game Kit, OnLine resources, Teacher created smartboard presentations, EDMath e presentations For Students: EDM 4 Student Reference Book, Math tool kit, Manipulatives, EDM4 Online student resources(games, algorithms)
Integrated Accommodations and Modifications	Modifications for Special Ed./504/At-Risk students: Group work w/teacher and/or classmates, EDM Readiness Math Master page(s), manipulatives for finding area, fractions, multiplying and dividing, and solving word problems, multiplication facts chart Modifications for ELL students: Provide visuals/pictures for math terms and concepts, manipulatives for modeling area and fractions Modifications for Gifted and Talented students: Allow self-paced progress when learning multiplication and division facts

Subject Area: __Mathematics	
Grade Level: 3rd **Unit 6 Fractions and Order of Operations**	Brief Summary of Unit: Students compare various approaches to solving problems and decide which strategies are best. They will continue to decide which known multiplication facts can be used to find remaining unknown facts. Students model multi-step number stories and represent unknowns with letters. They will learn order of operations and how parentheses are used to group symbols that affect the order of operations.

Content/Objective	Standards	Skills – SWBAT	Suggested Activities	Suggested Assessments	Pacing Guide
• Compare and use various approaches to solving number stories • Learn larger multiplication facts • Model multi-step number stories • Work with parentheses and order of operations	3.NBT.2 3.MD.4,8 3.OA.1-8 3.G.1,2	• Use Trade-First subtraction to solve problems • Build multiplication fact fluency • Use fact strategies of square products to find near squares • Be able to self assess knowledge of multiplication facts • Explore and construct quadrilaterals, collect measurement data, compare perimeters. • Use multiplication and division diagrams to solve number stories • Apply multiplication strategies to larger factors in multiplication • Solve number sentences involving parentheses • Write number stories containing 2 step number sentences; analyze and revise the stories • Solve multi-step problems by using order of operations • Solve Two-Step number stories using number models	• Add vocabulary to Math Journals. • Practice trade-first subtraction using manipulatives. • Play Baseball Multiplication in groups in order to practice multiplication facts **(Communication and Collaboration)** • Work with a partner and list known multiplication fact squares; then solve for near squares.**(Communication and Collaboration)(Critical Thinking and Problem Solving)** • Use calculators to play Beat the Calculators with a group to improve ability to respond to multiplication facts**(Communication and**	• End of unit test **(Benchmark assessment)** • Oral assessments (formative) • Teacher created assessments (summative) • Open response assessment (summative)	3 weeks (March)

		● Interpret products of whole numbers, e.g., interpret 5 x 7 as the total number of objects in 5 groups of 7 objects each. For example, describe and/or represent a context in which a total number of objects can be expressed as 5 x 7.	**Collaboration)** ● Use Activity Card 74 to measure to the nearest ½ inch and plot measurements on a line plot(**Critical Thinking and Problem Solving)** ● Construct quadrilaterals with straws and practice measuring polygons ● Use multiplication/division diagrams to solve number problems(**Critical Thinking and Problem Solving)** ● Play Multiplication Top It to improve larger facts skills(**Communication and Collaboration)** ● Children insert parentheses twice into the same number sentences to find the different solution ● Write number stories that use parentheses; discuss and revise the problems with a partner**(Communication and Collaboration) (Critical Thinking and Problem Solving)** ● Use calculators and work with a partner to practice order of operation		

			problems**(Communication and Collaboration)** ● Children use situation diagrams to represent and solve multi-step number stories**(Communication and Collaboration)**		

Integrated Components

21st Century Themes	**_____** Global Awareness __X___Financial, Economic, Business, and Entrepreneurial Literacy _____ Civic Literacy _____ Health literacy
21st Century Skills	_____ Creativity and Innovation ___x__ Critical Thinking and Problem Solving ___x__ Communication and Collaboration _____ Information Literacy _____ Media Literacy _____Life and Career Skills
Interdisciplinary Connections	**NJSLSW.3.2.:** Write an explanatory paragraph that explains the strategies used to solve a number story Life and Careers – **9.1.4.B.3-** Utilize money/savings strategies. **NJSLSA W.3.2.**: use of explanatory writing to defend and explain critical thinking. **CRP4.** Communicate clearly and effectively and with reason when explaining work or collaborating with peers. **CRP2**. Apply appropriate academic and technical skills when completing written and digital tasks/activities.
Integration of Technology	**8.1.5.A.1- Appropriately use digital tools when using Math websites and games:** www.aaamath.com, www.funbrain.com, www.edmathonline.com (games), smartboard, Calculators, smartboard presentations from EDMath , chromebooks, www.multiplication.com, www.ixl.com
Resources	For Teachers: Everyday Math 4 (Guides, Game Kit, OnLine resources, Teacher created smartboard presentations, EDMath e presentations For Students: EDM 4 Student Reference Book, Math tool kit, Manipulatives, EDM4 Online student resources(games, algorithms)
Integrated Accommodations and Modifications	Modifications for Special Ed./504/At-Risk students: Group work w/teacher and/or classmates, EDM Readiness Math Master page(s), manipulatives for multiplying and dividing, solving word problems, multiplication facts chart Modifications for ELL students: Provide visuals/pictures for math terms and concepts, manipulatives for modeling multiplication arrays Modifications for Gifted and Talented students: Allow self-paced progress when learning multiplication and division facts

Subject Area: _____Mathematics_____	
Grade Level: 3rd **Unit 7 Fractions, Measurement, and Liquid Volumes**	Brief Summary of Unit: Students revisit volume measurements in order to focus on estimating, measuring, and comparing liquid volumes. They will continue to understand fractions by expressing fractions as distances on a number line.

Content/Objective	**Standards**	**Skills – SWBAT**	**Suggested Activities**	**Suggested Assessments**	**Pacing Guide**
Students will: ● Estimate, measure, and compare liquid volumes. ● Explore and understand fractions by expressing them as distances on number lines	3.NBT.2,3 3.NF.1, 2a, 3a-d 3.OA.1-4 3.G.2	● Estimate and measure liquid volumes ● Estimate dots in arrays and identify equal shares ● Solve number stories involving time, mass, volume and length ● Create fraction strips and use them to name and compare fractions ● Using a number line, represent fractions that are greater than, less than, and equal to 1. ● Use visual models to compare fractions ● Order fractions and write rules for ordering; analyze their rules through discussion and revise ● Compare fractions and justify the comparisons ● Solve number stories involving fractions ● Analyze collections of objects and give fractional names for the sets ● Interpret products of whole numbers, e.g., interpret 5 x 7	● Add vocabulary to Math Journals ● Use Activity Card 77 and work with a partner to estimate and measure liquid volumes**(Communication and Collaboration)** ● Work with a partner to complete Activity Card 78 to solve number stories involving volume**(Communication and Collaboration)** ● Explore and solve problems involving equal shares ● Use fraction strips to partition and identify fractions ● Use fraction strips to represent fractions on a number line ● Use various objects to compare fractional parts; then play Fraction Top-It	● End of unit test **(Benchmark assessment)** ● Oral assessments (formative) ● Teacher created assessments (summative) ● Student Self-assessment surveys (formative)	3 ½ weeks (April)

		as the total number of objects in 5 groups of 7 objects each. For example, describe and/or represent a context in which a total number of objects can be expressed as 5 x 7 ● Interpret whole number quotients or whole numbers, e.g.,interpret 56 ÷ 8 as the number of objects in each share when 56 objects are partitioned equally into 8 shares, or as a number of shares when 56 objects are partitioned into equal shares of 8 objects each. For example, describe and/or represent a context in which a number of shares or a number of groups can be expressed as 56 ÷ 8	as partners**(Communication and Collaboration)** ● Order fractions with the same numerator using fraction tools (fraction circles, strips, cards, and Number-Line poster); and then write rules for ordering fractions **(Communication and Collaboration)** ● Use a number line to partition and label whole numbers; then, working with a partner, partition the number line into fraction ● Use Fraction Tools to justify fraction comparisons ● Solve Fraction Number Stories using ability to compare fractions and fraction tools(**Critical Thinking and Problem Solving)** ● Identify fractions of collections using manipulatives and then solve number stories ● Use chromebooks to work on fraction activities on www.ixl.com and other sites		

Integrated Components

21st Century Themes	_____ Global Awareness __X___Financial, Economic, Business, and Entrepreneurial Literacy _____ Civic Literacy _____ Health literacy
21st Century Skills	_____ Creativity and Innovation ____X_ Critical Thinking and Problem Solving __X___ Communication and Collaboration _____ Information Literacy _____ Media Literacy _____Life and Career Skills
Interdisciplinary Connections	**6.1.4.B.3-** Students must use distance scale and ruler. **NJSLSA W.3.2.**: use of explanatory writing to defend and explain critical thinking. **CRP4.** Communicate clearly and effectively and with reason when explaining work or collaborating with peers. **CRP2**. Apply appropriate academic and technical skills when completing written and digital tasks/activities.
Integration of Technology	**8.1.5.A.1- Appropriately use digital tools when using Math websites and games:** www.aaamath.com, www.funbrain.com, www.edmathonline.com (games), smartboard , www.ixl.com , Everyday Math online site
Resources	For Teachers: Everyday Math 4 (Guides, Game Kit, On Line resources, Teacher created smartboard presentations, EDMath e presentations For Students: EDM 4 Student Reference Book, Fraction tools, Manipulatives, EDM4 Online student resources(games, algorithms)
Integrated Accommodations and Modifications	Modifications for Special Ed./504/At-Risk students: Group work w/teacher and/or classmates, EDM Readiness Math Master page(s), manipulatives for fractions, solving word problems, multiplication facts chart Modifications for ELL students: Provide visuals/pictures for math terms and concepts, manipulatives for modeling fractions Modifications for Gifted and Talented students: Allow self-paced progress on higher levels of fraction activities on www.ixl.com

Subject Area: Mathematics	
Grade Level:3	Brief Summary of Unit: The students will deepen and apply their understanding of multiplication and division. They will extend their knowledge of measurement, and attributes of shapes.
Unit: 8 Multiplication and Division Using Measurement and Attributes of Shapes	

Content/Objective	**Standards**	**Skills – SWBAT**	**Suggested Activities**	**Suggested Assessments**	**Pacing Guide**
Students will: ● Represent and solve problems involving multiplication and division. ● Multiply and divide within 100. ● Represent and interpret data. ● Reason with shapes and their attributes.	**3.OA.1-7** **3.NBT.1-3** **3.MD.4** **3.MD.5 a-b** **3. MD.6** **3.MD.7 a-d** **3.G.1-2**	● use rulers to measure to the nearest 1/4 inch. ● develop strategies for solving extended multiplication and division facts. ● find factors of counting numbers. ● discuss and determine how to find products for a given factor ● model equal-sharing situations with $10 and $1 bills. ● compare fractions, generate equivalent fractions ● plot fractions on a number line ● explore the areas of rectangles ● explore the shared attributes of prisms. ● estimate and measure liquid	● Add math vocabulary to math journal ● Partner work-use a ruler to measure line segments and explain the strategy used to measure to the nearest ¼ inch. **(Communication and Collaboration)** (**Critical Thinking and Problem Solving)(Life and Career Skills)** ● Use base ten blocks to model extended multiplication and division facts ● Play math game- Factor Bingo **(Communication and Collaboration)** ● Use play money to illustrate equal sharing in division word	● End of unit test (Summative) **(Benchmark assessment)** ● Oral assessments (formative) ● Teacher created assessments (summative) ● Student Self-assessment surveys (formative)	4 weeks (April/May)

		volume of containers ● Interpret products of whole numbers, e.g., interpret 5 x 7 as the total number of objects in 5 groups of 7 objects each.For example, describe and/or represent a context in which a total number of objects can be expressed as 5 x 7 ● Interpret whole number quotients or whole numbers, e.g.,interpret 56 ÷ 8 as the number of objects in each share when 56 objects are partitioned equally into 8 shares, or as a number of shares when 56 objects are partitioned into equal shares of 8 objects each. For example, describe and/or represent a context in which a number of shares or a number of groups can be expressed as 56 ÷ 8 ● Measure areas by counting unit squares (square cm, square m, ● square in, square ft, and non-standard units)	problems. (**Critical Thinking and Problem Solving)** ● Use fraction pieces to build and compare fractions, and to model equivalent fractions. Write equivalent fractions using numbers and symbols. ● Solve open response problem (Math Masters p. 282-283 –Setting Up Chairs) –Make sense of different strategies and analyze mistakes in solutions **(Life and Career Skills)(Communication and Collaboration)** ● Use a number line and plot various fractions (Activity Card 90) ● Use a given area to construct squares and other rectangles on geoboards or Geoboard Dot Paper(**Critical Thinking and Problem Solving)** ● Build paper triangular prisms and have students trace bases and sides. Identify 2-D shapes.		

			● Go on a geometry hunt in the classroom for objects that have attributes of prisms. ● Estimate and record the number of milliliters or liters of water various containers can hold. Design a plan to measure the volume of each container. Discuss various strategies used to estimate and measure. Analyze mistakes in solutions **(Interdisciplinary Connection)(Life and Career Skills) (Communication and Collaboration)(Critical Thinking and Problem Solving)**		

Integrated Components

21st Century Themes	**___X__** Global Awareness _____Financial, Economic, Business, and Entrepreneurial Literacy _____ Civic Literacy _____ Health literacy
21st Century Skills	_____ Creativity and Innovation ___X__ Critical Thinking and Problem Solving ___X__ Communication and Collaboration _____ Information Literacy _____ Media Literacy ___X__Life and Career Skills
Interdisciplinary Connections	**3-5-ETS1-1.**- Integrate engineering design when creating models. **NJSLSA W.3.2.**: use of explanatory writing to defend and explain critical thinking. **CRP4.** Communicate clearly and effectively and with reason when explaining work or collaborating with peers. **CRP2**. Apply appropriate academic and technical skills when completing written and digital tasks/activities.
Integration of Technology	**8.1.5.A.1- Appropriately use digital tools when using Math websites and games:** www.aaamath.com, www.funbrain.com, www.edmathonline.com (games), smartboard

Resources	For Teachers: Everyday Math 4 (Guides, Game Kit, Online resources,)Teacher created smartboard presentations, Activity cards For Students: EDM 4 Student Reference Book, Math tool kit, Manipulatives, EDM4 Online student resources(games, algorithms) Activity cards
Integrated Accommodations and Modifications	Modifications for Special Ed./504/At-Risk students: Group work w/teacher and/or classmates, Play Array Bingo , play *Fraction Number- Line Squeeze* EDM Readiness Math Master page(s), manipulatives for multiplying and dividing, and solving word problems, multiplication facts chart Modifications for ELL students: Provide visuals/pictures for math vocabulary terms and concepts, manipulatives for modeling fractions and multiplication facts, pair w/a native language student (when possible) Modifications for Gifted and Talented students: Finding Factor Pairs- ED Math Activity Card: 86

Subject Area: **Mathematics**	
Grade Level: 3 **Unit: 9 Fractions and Elapsed Time**	Brief Summary of Unit: Students will use mathematical models to calculate elapsed time, further develop multiplication and division strategies, extend problem-solving strategies and deepen understanding through sharing, comparing and interpreting number representations. Students will explore geometric attributes of polygons

Content/Objective	**Standards**	**Skills – SWBAT**	**Suggested Activities**	**Suggested Assessments**	**Pacing Guide**
Students will: ● multiply and divide within 100. ● represent and solve problems involving multiplication and division. ● reason with geometric shapes and their attributes ● solve problems involving measurement	**3.OA.1-9** **3.NBT.1-3** **3.MD.1,2** **5 a-d** **6** **7 a-d** **3.G.1-2**	● find and compare products of basic facts. ● discuss strategies for comparing products of basic facts. ● solve number stories by multiplying and dividing with multiples of 10 ● use mental math to multiply ● work with elapsed time & explore polygon relationships ● calculate multi-digit multiplication number models ● Interpret products of whole numbers, e.g., interpret 5 x 7 as the total number of objects in 5 groups of 7 objects each. For example, describe and/or representa context in which a total number of objects can be expressed as 5 x 7 ● Interpret whole number quotients or whole numbers, e.g.,interpret 56 ÷ 8 as the number of objects in each share when 56 objects are partitioned equally into 8 shares, or as a number of	● Add math vocabulary to the math journal ● Update My Multiplication Facts Inventory ● Play Product Pile Up game **(Communication and Collaboration) (Critical Thinking and Problem Solving)** ● Play Beat the Calculator to reinforce basic facts **(Communication and Collaboration)** ● Work with a partner to solve multiplication & division number stories. Make sense of different strategies and analyze mistakes in solutions. *Write an explanatory paragraph* that describes one strategy used and explains the reasonableness of the solution. **(Life and**	● End of unit test (Summative) **(Benchmark assessment)** ● Oral assessments (formative) ● Teacher created assessments (summative) ● Open response assessment (summative)	2 ½ weeks (June)

		shares when 56 objects are partitioned into equal shares of 8 objects each. For example, describe and/or represent a context in which a number of shares or a number of groups can be expressed as 56 ÷ 8	**Career Skills) (Communication and Collaboration)(Critical Thinking and Problem Solving)** ● Partner work-Write original number stories with multiples of 10. Share stories w/other groups. **(Communication and Collaboration)(Critical Thinking and Problem Solving) (C&I)** ● Display number stories on smartboard. Have pairs of students discuss strategies for creating solutions using mental math strategies. **(Communication and Collaboration)** ● Use an open number line to solve elapsed time word problems ● Use Activity card #98 to plan a field trip schedule **(Communication and Collaboration) (Critical Thinking and Problem Solving) (Life and Career Skills)** ● Use Activity card #98-Partners will create a plan on how to cut 2		

			squares into pieces in such a way that allows them to reassemble the pieces into a single square. **(Communication and Collaboration) (Critical Thinking and Problem Solving)** ● Display multi digit multiplication number models on smartboard and model the break-apart strategy to calculate the product. Use Activity card #101 with a partner to practice this strategy. **(Communication and Collaboration)** ● Group work -Solve Open Response items/number stories. Devise and implement a plan to obtain a solution. Share strategies and solutions, analyze, & revise work. **(Communication and Collaboration) (Critical Thinking and Problem Solving) (Life and Career Skills)**		

Integrated Components

21st Century Themes	_____ Global Awareness __X___Financial, Economic, Business, and Entrepreneurial Literacy _____ Civic Literacy _____ Health literacy
21st Century Skills	____X_ Creativity and Innovation ___X__ Critical Thinking and Problem Solving ____X_ Communication and Collaboration _____ Information Literacy _____ Media Literacy ___X__Life and Career Skills
Interdisciplinary Connections	**NJSLSA W.3.2.**: use of explanatory writing to defend and explain critical thinking. **CRP4.** Communicate clearly and effectively and with reason when explaining work or collaborating with peers. **CRP2**. Apply appropriate academic and technical skills when completing written and digital tasks/activities.
Integration of Technology	**8.1.5.A.1- Appropriately use digital tools when using Math websites and games:** www.aaamath.com, www.funbrain.com, www.edmathonline.com (games), smartboard
Resources	For Teachers: Everyday Math 4 (Guides, Game Kit, OnLine resources, Teacher created smartboard presentations For Students: : EDM 4 Student Reference Book, Math tool kit, Manipulatives, EDM4 Online student resources(games, algorithms) Activity cards
Integrated Accommodations and Modifications	Modifications for Special Ed./504/At-Risk students: EDM Readiness Math Master page(s), manipulatives for solving multiplication facts, division facts and solving word problems, provide a multiplication facts chart , play lower level EDMathonline.com math games Modifications for ELL students: Visuals/pictures for math vocabulary terms and concepts, math manipulatives, pair w/a native language student (when possible) Modifications for Gifted and Talented students: Students can extend various math skills by completing the EDMathonline.com grade 3 or higher challenge games , write *A Guide to Playing Math Games,* a booklet filled with hints and strategies for winning *Everyday Mathematics* games **(Interdisciplinary Connections)**

Mine Hill Township School District

(4th Grade/Math)

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Approval date:
October 26, 2020

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Subject Area: Mathematics	
Grade Level: Fourth Grade	**Brief Summary of Unit**: In this unit, students explore place-value concepts for multi-digit whole numbers. They use U.S. traditional addition and subtraction to add and subtract multi-digit whole numbers.
Unit 1 - Place Value: Multidigit Addition and Subtraction	

Content/Objective	**Standards**	**Skills – SWBAT**	**Suggested Activities**	**Suggested Assessments**	**Pacing Guide**
Students will... -Use addition and subtraction of whole numbers to solve problems. -Generalize place value understanding for multi-digit whole numbers. -Use place value understanding and properties of operations to perform multi-digit arithmetic. -Draw and identify lines and angles, and classify shapes by properties of their lines and angles.	4.NBT.1 4.NBT.2 4.NBT.3 4.NBT.4 4.NBT.5 4.NBT.6 4.G.1 4.G.2 4.OA.3 4.OA.5	● Students work with place value in whole numbers through hundred-thousands. ● Students record numbers in expanded form and compare numbers through the hundred-thousands. ● Students learn procedures for rounding numbers through hundred-thousands. ● Students explore different ways to estimate. ● Students practice solving multi-step number stories involving addition and subtraction. ● Students are introduced to U.S. traditional addition. ● Students are introduced to U.S. traditional subtraction. ● Students explore properties of points, line segments, lines, and rays. ● Students learn properties of angles, triangles, and quadrilaterals. ● Students develop a formula for finding the perimeter of a rectangle.	1. Complete Everyday Math journal pages. 2. Construct compact place-value flip books. 3. Play *Number Top-It* game. **(Communication and Collaboration) (Critical Thinking and Problem Solving)** 4. Play *Spin and Round.* **(Communication and Collaboration) (Critical Thinking and Problem Solving)** 5. Read "*Betcha! Estimating*" by Stuart J. Murphy. 6. Student partners summarize steps taken to solve a word problem. **(Communication and Collaboration)** 7. Student partners share strategies for solving addition problems (partial-sums, column, and traditional). **(Communication and Collaboration)** 8. "Cracking the Muffin Code"open response	● Formative self-assessments (warm ups) ● Menu Math choice board tasks (alternative assessment) ● Math Boxes ● Journal pages ● Open response problems **(Critical Thinking and Problem Solving)** ● Task cards and classroom scoot activities (formative) ● Teacher-created assessments ● Exit tickets (formative) ● Teacher observations ● Home Links ● Summative Unit 1 Assessment ● "Back to School" Project Based Learning **(Critical Thinking and Problem Solving)**	September (approximately 4 weeks)

			(students use mathematical patterns and structures to decipher codes based on place-value systems). **(Critical Thinking and Problem Solving)** 9. Student partners share strategies for solving subtraction problems (counting-up, trade first, and traditional). **(Communication and Collaboration)** 10. Complete a classroom scavenger hunt for geometric shapes and patterns and identify parallel lines, line segments, and rays. 11. Build right, obtuse, acute, right triangles, and quadrilaterals using straws. **(Creativity and Innovation)** 12. Select and measure the perimeter of objects and spaces in the classroom. **(Life and Career Skills)**	● BENCHMARK – Everyday Math beginning-of-year assessment ● BENCHMARK – Addition/subtraction running record	

Integrated Components

21st Century Themes	_____ Global Awareness ___ Financial, Economic, Business, and Entrepreneurial Literacy _____ Civic Literacy _____ Health literacy
21st Century Skills	__✔__ Creativity and Innovation __✔__ Critical Thinking and Problem Solving __✔___ Communication and Collaboration _____ Information Literacy _____ Media Literacy __✔___Life and Career Skills
Interdisciplinary Connections	-Literature connections - Reading of "*Betcha! Estimating*" (ELA.RL.4, Life and Career Standards: 9.1.4.C.4) -Writing addition/subtraction number stories, poems, and songs about rounding (W.4.2 Write informative/explanatory texts to examine a topic and convey ideas and information clearly.)
Integration of Technology	BrainPOP/Flocabulary videos on topics/content Additional practice of skills using IXL.org

	Math games projected on the Smartboard through http://sheppardsoftware.com/math.htm Document camera for teacher-guided and student-directed practice Student-created multimedia presentations on place value and multidigit computation concepts *NJSLS 8.1 Educational Technology*
Resources	**For teachers:** Everyday Math 4 - Unit 1 - Lessons 1.1 through 1.14 Math Masters Differentiation Handbook Math Game Kit Teacher-created materials Smartboard presentations **For students:** Student Reference Book (hard copy and online version) Math Journal Family Letters Home Links Activity cards Place-value flip books Math mini offices
Integrated Accommodations and Modifications	**All Students**: Varied levels of scaffolding and differentiated tasks based on Math Workshop groupings **Modifications for Special Education/504/At-Risk students:** Provide students with number lines to visualize place value, addition and subtraction. Use base ten blocks. Use a visual organizer to model number stories. Review third grade skills (column addition). Sort pattern blocks according to rules. **Modifications for ELL students:** Use think-aloud statements to familiarize students with place value concepts. Provide visuals and pictures for math terms in this unit (addition, subtraction, place value, rounding, estimation, etc). Provide students with number lines to visualize place value, addition and subtraction. Use gestures for simple word problems. Use base ten blocks. Role-play making trades (for addition and subtraction). **Modifications for Gifted students**: Solving complex number grid puzzles. Give students an opportunity to collect large numbers from newspapers and magazines. Students plan a balanced meal. Create addition and subtraction number stories for partners to solve. Use number tiles to fill in missing values in addition problems.

Subject Area: Mathematics	
Grade Level: Fourth Grade **Unit 2 -** Multiplication and Geometry	**Brief Summary of Unit**: In this unit, students explore various applications for multiplication. They classify shapes by properties and develop formulas for finding the area of a rectangle.

Content/Objective	**Standards**	**Skills – SWBAT**	**Suggested Activities**	**Suggested Assessments**	**Pacing Guide**
Students will… -Develop multiplication fact fluency -Use multiplication of whole numbers to solve problems. -Draw and identify lines and angles, and classify shapes by properties of their lines and angles.	4.MD.1 4.MD.2 4.MD.3 4.NBT.2 4.NBT.3 4.NBT.4 4.NBT.5 4.NBT.6 4.G.1 4.G.2 4.G.3 4.OA.1 4.OA.2 4.OA.4 4.OA.5	● Students review rectangular arrays and explore patterns in square numbers. ● Students relate previous work with area to develop a formula for the area of a rectangle. ● Students work with factor pairs, arrays, and corresponding equations. ● Students learn that a whole number is a multiple of each of its factors. ● Students classify numbers as prime or composite. ● Students use multiplicative reasoning to make predictions. ● Students convert units of time to smaller units. ● Students create and interpret statements and equations for multiplicative comparisons. ● Students solve number stories involving multiplicative comparisons. ● Students classify triangles by angle properties. ● Students classify quadrilaterals by their properties.	1. Complete Everyday Math journal pages. 2. Students use geoboards to make shapes and identify area/perimeter. **(Creativity and Innovation)** 3. Play *Subtraction Target Practice* to practice place-value and subtraction skills. **(Communication and Collaboration) (Critical Thinking and Problem Solving)** 4. Play *Factor Captor.* **(Communication and Collaboration) (Critical Thinking and Problem Solving)** 5. Students fill out factor trees. 6. Student partners create and solve number stories involving multiples. **(Communication and Collaboration)** 7. Students classify prime and composite numbers. 8. Students use a measurement scale to discuss the relationships	● Formative self-assessments (warm ups) ● Menu Math choice board tasks (alternative assessment) ● Math Boxes ● Journal pages ● Open response problems **(Critical Thinking and Problem Solving)** ● Completion of "Multiplication in Seven Days" program ● Task cards and classroom scoot activities (formative) ● Teacher-created assessments ● Exit tickets (formative) ● Teacher observations ● Home Links ● Summative Unit 2 Assessment ● BENCHMARK – Multiplication running record	October (approximately 4 weeks)

		● Students explore symmetry in nature, objects, and shapes. ● Students review the "What's My Rule?" routine to analyze patterns.	between hours, minutes, and seconds. 9. "Little and Big"open response (students use multiplicative reasoning to make predictions). **(Critical Thinking and Problem Solving)** 10. Student partners use models to solve comparison number stories **(Communication and Collaboration)** 11. Build right, obtuse, acute, right triangles, and quadrilaterals using straws. **(Creativity and Innovation)** 12. Students make and classify four-sided polygons on geoboards. **(Creativity and Innovation)** 13. Students create symmetrical designs. 14. Students create function machines to apply mathematical rules.		

Integrated Components

21st Century Themes	_____ Global Awareness ____ Financial, Economic, Business, and Entrepreneurial Literacy _____ Civic Literacy _____ Health literacy
21st Century Skills	__✔__ Creativity and Innovation __✔__ Critical Thinking and Problem Solving __✔___ Communication and Collaboration _____ Information Literacy _____ Media Literacy _____Life and Career Skills
Interdisciplinary Connections	-Literature connections - Reading of "*The Doorbell Rang*" (ELA.RL.4) -Creating a rap or song about the hardest list of multiples (W.4.2 Write explanatory texts to examine a topic)
Integration of Technology	BrainPOP/Flocabulary videos on topics/content Additional practice of skills using IXL.org and xtramath.org Math games projected on the Smartboard through http://sheppardsoftware.com/math.htm Document camera for teacher-guided and student-directed practice Student-created multimedia presentations on fraction multiplication and geometry concepts *NJSLS 8.1 Educational Technology*

Resources	**For teachers:** "Multiplication in Seven Days" program Everyday Math 4 - Unit 2 - Lessons 2.1 through 2.14 Math Masters Differentiation Handbook Math Game Kit Teacher-created materials Smartboard presentations **For students:** Student Reference Book (hard copy and online version) Math Journal Family Letters Home Links Activity cards Math mini offices Agenda Geometry templates
Integrated Accommodations and Modifications	**All Students**: Varied levels of scaffolding and differentiated tasks based on Math Workshop groupings **Modifications for Special Education/504/At-Risk students:** Provide students with number lines to visualize place value, addition and subtraction. Use base ten blocks. Use a visual organizer to model number stories. Review third grade skills. Sort pattern blocks according to rules. Use concrete models for skills. **Modifications for ELL students:** Use think-aloud statements to familiarize students with multiplication and geometry concepts. Provide visuals and pictures for math terms in this unit (multiplication, factor, multiple, prime, composite, etc). Provide students with number lines to visualize place value, addition and subtraction. Use gestures for simple word problems. Use base ten blocks. Use everyday objects like egg cartons to illustrate arrays. **Modifications for Gifted students**: Give students an opportunity to explore Goldbach's Conjecture. Solving complex number grid puzzles. Give students an opportunity to collect large numbers from newspapers and magazines. Students plan a balanced meal. Create addition and subtraction number stories for partners to solve. Use number tiles to fill in missing values in addition problems. Give students opportunities to apply mathematical thinking in real-life contexts. Students create and solve riddles using the attributes of triangles and quadrilaterals.

Subject Area: Mathematics	
Grade Level: Fourth Grade **Unit 3 -** Fractions and Decimals	**Brief Summary of Unit**: In this unit, students explore fraction equivalence and compare and order fractions using different representations. They then extend their understanding of fractions to decimals, comparing and ordering decimals using the same methods for comparing fractions.

Content/Objective	**Standards**	**Skills – SWBAT**	**Suggested Activities**	**Suggested Assessments**	**Pacing Guide**
Students will… -Extend understanding of fraction equivalence and ordering -Understand decimal notation for fractions, and compare decimal fractions	4.NF.1 4.NF.2 4.NF.3 4.NF.3b 4.NF.5 4.NF.6 4.NF.7 4.MD.1 4.MD.2 4.OA.2 4.OA.4 4.OA.5	● Students extend their understanding of fraction equivalence by solving number stories involving equally shared quantities. ● Students use an area model to recognize and generate equivalent fractions. ● Students use a length or number-line model to recognize and generate equivalent fractions. ● Students generalize their work with visual fraction models. ● Students compare fractions in number stories. ● Students learn strategies to order fractions and place them accurately on number lines. ● Students are introduced to the relationship between fractions and decimals. ● Students model decimals with base-10 blocks. ● Students read and write decimal numbers to the hundredths.	1. Complete Everyday Math journal pages. 2. Play *Fraction Match* and *Decimal and Fraction Top-It*. **(Communication and Collaboration) (Critical Thinking and Problem Solving)** 3. Use fraction circles to create models of a whole. 4. Color fraction circles to find missing numerators. 5. Students use fraction strips to match visual representations of fractions. 6. Student partners share strategies for solving fraction comparison problems. **(Communication and Collaboration)** 7. “Veggie Pizzas”open response (students use mathematical models to compare fractions with different numerators and denominators). **(Critical Thinking and Problem Solving)**	● Formative self-assessments (warm ups) ● Menu Math choice board tasks (alternative assessment) ● Math Boxes ● Journal pages ● Open response problems **(Critical Thinking and Problem Solving)** ● Task cards and classroom scoot activities (formative) ● Teacher-created assessments ● Exit tickets (formative) ● Teacher observations ● Home Links ● Summative Unit 3 Assessment ● “Plan a Holiday Party” and “Budgeting” Project Based Learning **(Critical Thinking and Problem Solving)**	November and December (approximately 6 weeks)

		• Students explore decimals in the context of measurement. • Students are introduced to millimeters and convert between km, m, cm, and mm. • Students compare decimals using <, > and =	8. Students discuss fractional parts of a dollar and explore tenths using base-ten blocks and a square grid. **(Communication and Collaboration)** 9. Students name and record decimals and fractions using words and numerals. 10. Students use a meterstick to explore decimals. 11. Students convert rainfall measurements from centimeters to millimeters and plot and compare data. **(Life and Career Skills)**	(alternative assessment)	

Integrated Components

21st Century Themes	**_____** Global Awareness **___** Financial, Economic, Business, and Entrepreneurial Literacy _____ Civic Literacy _____ Health literacy
21st Century Skills	____ Creativity and Innovation __✔__ Critical Thinking and Problem Solving __✔___ Communication and Collaboration _____ Information Literacy _____ Media Literacy _✔___Life and Career Skills
Interdisciplinary Connections	Life and Career Standards: 9.1.8.A.1, 9.1.4.E.1, 9.1.4.E.2 Health and ELA: Creating a poster for a younger student teaching them how fractions can be related to food. (W.4.2 Write explanatory texts to examine a topic).
Integration of Technology	BrainPOP/Flocabulary videos on topics/content Additional practice of skills using IXL.org Math games projected on the Smartboard through http://sheppardsoftware.com/math.htm Document camera for teacher-guided and student-directed practice Student-created multimedia presentations on fraction and decimal concepts *NJSLS 8.1 Educational Technology*
Resources	**For teachers:** Everyday Math 4 - Unit 3 - Lessons 3.1 through 3.14 Math Masters Differentiation Handbook

	Math Game Kit Teacher-created materials Smartboard presentations **For students:** Student Reference Book (hard copy and online version) Fraction circles Base-ten blocks Meter sticks Number line Math Journal Family Letters Home Links Activity cards Math mini offices Agenda Geometry templates
Integrated Accommodations and Modifications	**All Students**: Varied levels of scaffolding and differentiated tasks based on Math Workshop groupings **Modifications for Special Education/504/At-Risk students:** Students divide circles into equal parts and color specified parts of a whole. Students fold paper to demonstrate fractional parts of a whole. Use money as a basis to explore decimals. Use a place-value flip book for decimals. Use base ten blocks. Use a visual organizer. Review third grade skills. Use concrete models for skills. **Modifications for ELL students:** Use think-aloud statements to familiarize students with fraction and decimal concepts. Provide visuals and pictures for math terms in this unit (numerator, denominator, equivalence, etc). Provide students with number lines to visualize concepts. Use gestures for simple word problems. Use base ten blocks. Do a scavenger hunt using a meter stick. **Modifications for Gifted students**: Students use a clock face to model equivalent fractions with denominators that are factors of 60. Students search for decimal notation in magazines, newspapers, and other printed sources. Students construct a fraction decimal wheel. Give students opportunities to apply mathematical thinking in real-life contexts.

Subject Area: Mathematics	
Grade Level: Fourth Grade **Unit 4 -** Multidigit Multiplication	**Brief Summary of Unit**: In this unit, students are introduced to basic principles of multidigit multiplication by focusing on extending multiplication skills and exploring the partial-products method. They use their knowledge of multiplication to find the areas of rectangles and to convert units of measurement.

Content/Objective	**Standards**	**Skills – SWBAT**	**Suggested Activities**	**Suggested Assessments**	**Pacing Guide**
Students will… -Use multiplication with whole numbers to solve problems. -Gain familiarity with factors and multiples. -Use place value understanding and properties of operations to perform multi-digit arithmetic -Solve problems involving measurement and conversion of measurements from a larger unit to a smaller unit	4.NBT.1 4.NBT.2 4.NBT.3 4.NBT.4 4.NBT.5 4.NBT.6 4.OA.2 4.OA.3 4.MD.1 4.MD.2 4.MD.3 4.G.2	● Students find a rule for solving multiplication problems involving multiples of 10. ● Students make estimates and evaluate the reasonableness of their answers. ● Students solve multiplication problems by partitioning rectangles. ● Students convert liters to milliliters. ● Students are introduced to the partial products multiplication strategy. ● Students convert kilograms to grams. ● Students solve multistep number stories involving money. ● Students practice basic principles of multiplication. ● Students find the area of rectangles and rectilinear figures using multi-digit computation. ● Students solve multistep multiplication problems. ● Students explore the lattice method of multiplication.	1. Complete Everyday Math journal pages. 2. Play *Factor Captor* and *Multiplication Top-It*. **(Communication and Collaboration) (Critical Thinking and Problem Solving)** 3. Solve multiplication puzzles. 4. Use food survey data to make estimates. **(Critical Thinking and Problem Solving) (Life and Career Skills)** 5. Model and solve multiplication problems by partitioning rectangles. 6. Use tables and diagrams to convert measurements 7. “Walking Away with a Million Dollars”open response (students use multiplication and division to decide if one million dollars will fit in a large box). **(Critical Thinking and Problem Solving)**	● Formative self-assessments (warm ups) ● Menu Math choice board tasks (alternative assessment) ● Math Boxes ● Journal pages ● Open response problems **(Critical Thinking and Problem Solving)** ● Task cards and classroom scoot activities (formative) ● Teacher-created assessments ● Exit tickets (formative) ● Teacher observations ● Home Links ● Summative Unit 4 Assessment ● BENCHMARK – Multiplication running record ● BENCHMARK – Everyday Math	January (approximately 4 weeks)

			8. Student partners discuss rules for the partial products method of multiplication. **(Communication and Collaboration)** 9. Use a measurement scale to discuss the relationship between kilograms and grams. 10. Students write multistep number stories. **(Creativity and Innovation)** 11. Students play *Multiplication Wrestling* to practice multiplying 2-digit by 2-digit numbers. 12. Watch lattice multiplication video - "*Lightsaber Lecture*"	middle-of-year assessment	

Integrated Components

21st Century Themes	____ Global Awareness ___ Financial, Economic, Business, and Entrepreneurial Literacy _____ Civic Literacy _____ Health literacy
21st Century Skills	__✔__ Creativity and Innovation __✔__ Critical Thinking and Problem Solving __✔___ Communication and Collaboration _____ Information Literacy _____ Media Literacy ____Life and Career Skills
Interdisciplinary Connections	-Literature connections - Reading of "*Amanda Bean's Amazing Dream*" (ELA.RL.4) -Create a poster and explain what multiplication is, what it means, and strategies used. (W.4.2 Write explanatory texts to examine a topic).
Integration of Technology	BrainPOP/Flocabulary videos on topics/content Additional practice of skills using IXL.org and xtramath.org Math games projected on the Smartboard through http://sheppardsoftware.com/math.htm Document camera for teacher-guided and student-directed practice Student-created multimedia presentations on multidigit multiplication concepts *NJSLS 8.1 Educational Technology*
Resources	**For teachers:** Everyday Math 4 - Unit 4 - Lessons 4.1 through 4.14 Math Masters

	Differentiation Handbook Math Game Kit Teacher-created materials Smartboard presentations **For students:** Student Reference Book (hard copy and online version) Lattice grids Anchor charts Base-ten blocks Number line Math Journal Family Letters Home Links Activity cards Math mini offices Agenda Geometry templates
Integrated Accommodations and Modifications	**All Students**: Varied levels of scaffolding and differentiated tasks based on Math Workshop groupings **Modifications for Special Education/504/At-Risk students:** Practice basic multiplication facts by playing *Beat the Calculator.* Practice decomposing large numbers using place value knowledge. Use base ten blocks. Use a visual organizer. Review third grade skills. Use concrete models for skills. **Modifications for ELL students:** Use think-aloud statements to familiarize students with multidigit multiplication concepts. Use labels on items as required. Provide visuals and pictures for math terms in this unit (multiplication, lattice, partial-products, etc). Provide students with number lines to visualize concepts. Use gestures for simple word problems. Use base ten blocks. **Modifications for Gifted students**: Give students an opportunity to investigate “Napier’s Rods” to apply their understanding of multiplication. Students explore Egyptian Multiplication as an early algorithm for multiplying. Students find missing numbers and digits in multiplication number sentences (algebraic knowledge). Give students opportunities to apply mathematical thinking in real-life contexts.

Subject Area: Mathematics	
Grade Level: Fourth Grade **Unit 5 -** Fraction and Mixed-Number Computation; Measurement	**Brief Summary of Unit**: In this unit, students deepen their understanding of fractions by learning how a fraction such as 3/4 can be broken into smaller parts, such as 1/4 + 1/4 + 1/4. Based on this understanding, students are able to see how adding and subtracting fractions with like denominators is simply putting together or taking away some number of same-size parts. They use different fraction representations and tools, including fraction circles, number lines, and drawings, to build a concrete understanding of the meaning of fractions, as opposed to just learning rules and procedures.

Content/Objective	**Standards**	**Skills – SWBAT**	**Suggested Activities**	**Suggested Assessments**	**Pacing Guide**
Students will… -Decompose fractions. -Add and subtract mixed-numbers. -Organize data. -Explore angle measures. -Create symmetrical figures.	4.NBT.2 4.NBT.3 4.NBT.4 4.NBT.5 4.NBT.6 4.OA.1 4.OA.2 4.OA.3 4.NF.1 4.NF.2 4.NF.3a 4.NF.3b 4.NF.3c 4.NF.3d	● Students explore decomposing fractions into sums of fractions with the same denominator. ● Students practice finding the whole when given a fractional part of a region. ● Students add fractions (of the same whole, with like denominators) to solve number stories. ● Students learn multiple strategies to add mixed numbers with like denominators. ● Students add unlike fractions with tenths and hundredths. ● Students decide how to divide an area of land into parts based on a number story and write a fraction addition. ● Students subtract fractions to solve number stories. ● Students subtract mixed numbers.	1. Complete Everyday Math journal pages. 2. Play *Fraction Match, Fishing for Fractions,* and *Fraction Top-It*. **(Communication and Collaboration) (Critical Thinking and Problem Solving)** 3. Use fraction circles to represent and decompose fractions **(Creativity and Innovation)**. 4. Model and solve number story problems. 5. Students play *Multiplication Wrestling* to practice multiplying 2-digit by 2-digit numbers. 6. “Queen Arlene”open response (students divide an area of land into parts). **(Critical Thinking and Problem Solving)** 7. Students play fraction/decimal	● Formative self-assessments (warm ups) ● Menu Math choice board tasks (alternative assessment) ● Math Boxes ● Journal pages ● Open response problems **(Critical Thinking and Problem Solving)** ● Task cards and classroom scoot activities (formative) ● Teacher-created assessments ● Exit tickets (formative) ● Teacher observations ● Home Links ● Summative Unit 5 Assessment ● “Kid in a Candy Store,” “Plan a Valentine’s Day	February (approximately 4 weeks)

	4.NF.5 4.NF.6 4.NF.7 4.MD.2 4.MD.4 4.MD.5a 4.MD.5b 4.G.1 4.G.3	● Students record data on a line plot. ● Students explore rotation and angle measures. ● Students define degree units for angles. ● Students create symmetrical figures. ● Students solve multi-step multiplication number stories.	concentration game. **(Communication and Collaboration)** 8. Create a line plot based on student responses. 9. Students write multistep number stories. **(Creativity and Innovation)**	Party," or "Teacher for a Day" Project Based Learning **(Financial, Economic, Business, and Entrepreneurial Literacy) (Critical Thinking and Problem Solving)** (alternative assessment)	

Integrated Components

21st Century Themes	_____ Global Awareness _✔_ Financial, Economic, Business, and Entrepreneurial Literacy _____ Civic Literacy _____ Health literacy
21st Century Skills	__✔__ Creativity and Innovation __✔__ Critical Thinking and Problem Solving __✔___ Communication and Collaboration _____ Information Literacy _____ Media Literacy ____Life and Career Skills
Interdisciplinary Connections	"Kid in a Candy Store" Project: SOCIAL STUDIES.6.1.4.C - Economics, Innovation, and Technology Create a foldable showing everything you know about fractions (W.4.2 Write explanatory texts to examine a topic).
Integration of Technology	BrainPOP/Flocabulary videos on topics/content Additional practice of skills using IXL.org and xtramath.org Math games projected on the Smartboard through http://sheppardsoftware.com/math.htm Document camera for teacher-guided and student-directed practice Student-created multimedia presentations on fraction and mixed-number computation *NJSLS 8.1 Educational Technology*
Resources	**For teachers:** Everyday Math 4 - Unit 5 - Lessons 5.1 through 5.14 Math Masters Differentiation Handbook Math Game Kit Teacher-created materials Smartboard presentations **For students:**

	Student Reference Book (hard copy and online version) Fraction circles Number line Math Journal Family Letters Home Links Activity cards Math mini offices Agenda Geometry templates
Integrated Accommodations and Modifications	**All Students**: Varied levels of scaffolding and differentiated tasks based on Math Workshop groupings **Modifications for Special Education/504/At-Risk students:** Students complete "What's My Rule?" tables. Review third grade skills. Find many mixed-number combinations that have a sum of five. Practice angle measures using paper plate angle makers. Practice decomposing large numbers using place value knowledge. Use base ten blocks. Use a visual organizer. **Modifications for ELL students:** Use think-aloud statements to familiarize students with fraction and mixed-number computation concepts. Use labels on items as required. Provide visuals and pictures for math terms in this unit (numerator, denominator, decompose, fraction, etc). Provide students with number lines to visualize concepts. Use gestures for simple word problems. **Modifications for Gifted students**: Students determine how a candy bar was divided based on clues involving fractional parts. Students explore fractions with tangrams. Students investigate how early Egyptians represented fractions as the sum of unit fractions. Students solve number stories involving length of hiking trails. Students use coins to represent and add fractions. Give students opportunities to apply mathematical thinking in real-life contexts.

Subject Area: Mathematics	
Grade Level: Fourth Grade **Unit 6 -** Division and Angles	**Brief Summary of Unit**: In Unit 6 the students will divide multidigit numbers using extended division facts, multiples, area models, and partial quotients. Throughout the unit students solve multistep division number stories involving dividends with multiple digits, learn the meaning of the remainders, and apply their division skills in real-life contexts. Students also learn the partial-quotients division method, in which the dividend is divided in a series of steps.

Content/Objective	**Standards**	**Skills – SWBAT**	**Suggested Activities**	**Suggested Assessments**	**Pacing Guide**
Students will… -Extend division facts. -Use strategies for division. -Express and interpret remainders. -Solve number stories with fractions and mixed numbers. -Multiply fractions by whole numbers. -Convert customary units of weight. -Measure angles.	4.NBT.1 4.NBT.2 4.NBT.4 4.NBT.5 4.NBT.6 4.OA.1 4.OA.2 4.OA.3 4.OA.4 4.OA.5 4.NF.1 4.NF.2 4.NF.3a 4.NF.3c 4.NF.6 4.NF.7 4.MD.1 4.MD.2 4.MD.3 4.MD.4 4.MD.5a 4.MD.5b 4.MD.6 4.G.1 4.G.3	● Students find a rule for solving extended division facts. ● Students find missing side lengths of rectangles. ● Students solve division number stories. ● Students explore dividing multidigit numbers using the partial quotients method. ● Students express and interpret remainders. ● Students explore and convert within the customary units of weight. ● Students make an angle measurer and use it to measure angles. ● Students measure angles with half-circle protractors. ● Students add and subtract to find unknown angle measures. ● Students add and subtract fractions and mixed numbers. ● Students multiply fractions by whole numbers.	1. Complete Everyday Math journal pages. 2. Play *Rugs and Fences*. **(Communication and Collaboration) (Critical Thinking and Problem Solving)** 3. Model and solve division problems and stories. 4. Partition a rectangle to solve division problems. 5. Students estimate quotients to solve division problems. 6. “Fruit Baskets”open response (students solve multi-step problems about distributing oranges into baskets). **(Critical Thinking and Problem Solving)** 7. Students use measurement scales to answer questions. 8. Convert tons, pounds, and ounces. 9. Students write multistep number stories. **(Creativity and Innovation)**	● Formative self-assessments (warm ups) ● Menu Math choice board tasks (alternative assessment) ● Math Boxes ● Journal pages ● Open response problems **(Critical Thinking and Problem Solving)** ● Task cards and classroom scoot activities (formative) ● Teacher-created assessments ● Exit tickets (formative) ● Teacher observations ● Home Links ● Summative Unit 6 Assessment ● Measurement Conversion Exploration **(Critical Thinking and Problem Solving)**	March (approximately 4 weeks)

			10. Model and practice the partial quotients strategy for division. 11. Read "A Remainder of One" and "Sir Cumference and the Great Knight of Angleland." 12. Make a paper plate angle measurer. **(Creativity and Innovation)** 13. Compare the half-circle protractor with angle measurers.	● BENCHMARK – Division running record	

Integrated Components

21st Century Themes	_____ Global Awareness __ Financial, Economic, Business, and Entrepreneurial Literacy _____ Civic Literacy _____ Health literacy
21st Century Skills	__✔__ Creativity and Innovation __✔__ Critical Thinking and Problem Solving __✔___ Communication and Collaboration _____ Information Literacy _____ Media Literacy ____Life and Career Skills
Interdisciplinary Connections	-Literature connections - Reading of "*Sir Cumference and the Great Knight of Angleland*" and "*A Remainder of One*" - ELA.RL.4 - Create a poster and explain what division is, what it means, and when we use it. (W.4.2 Write explanatory texts to examine a topic)
Integration of Technology	BrainPOP/Flocabulary videos on topics/content Additional practice of skills using IXL.org and xtramath.org Math games projected on the Smartboard through http://sheppardsoftware.com/math.htm Document camera for teacher-guided and student-directed practice Student-created multimedia presentations on division and angles *NJSLS 8.1 Educational Technology*
Resources	**For teachers:** Everyday Math 4 - Unit 6 - Lessons 6.1 through 6.14 Math Masters Differentiation Handbook Math Game Kit Teacher-created materials Smartboard presentations **For students:** Student Reference Book (hard copy and online version) Paper plate angle measurer

	Half-circle protractor Measurement conversion reference sheet Fraction notation cards Collection of objects with a variety of weight measurements Graph paper Family letters Activity cards Math mini offices Agenda Geometry templates
Integrated Accommodations and Modifications	**All Students**: Varied levels of scaffolding and differentiated tasks based on Math Workshop groupings **Modifications for Special Education/504/At-Risk students:** Students practice basic facts using fact triangles. Finding garden plot dimensions. Practice using multiples to divide, students find the number of 5s, 6s, 7s, 8s, and 9s in 97. Playing division top-it and Degrees of Accuracy. Review third grade skills. Find many mixed-number combinations that have a sum of five. Practice angle measures using paper plate angle makers. Practice decomposing large numbers using place value knowledge. Use base ten blocks. Use a visual organizer. **Modifications for ELL students:** Use think-aloud statements to familiarize students with division and angle concepts. Use labels on items as required. Provide visuals and pictures for math terms in this unit (divisor, dividend, remainder, quotient, etc). Provide students with number lines to visualize concepts. Use gestures for simple word problems. **Modifications for Gifted students**: Students explore converting ounces, pounds, and tons, students answer questions about record-setting food weights. Give students opportunities to apply mathematical thinking in real-life contexts. Have students find factor pairs for 2,340.

Subject Area: Mathematics	
Grade Level: Fourth Grade **Unit 7 -**Multiplication of a Fraction by a Whole Number; Measurement	**Brief Summary of Unit**: In Unit 7, the students will apply and extend their previous understandings of multiplying whole numbers to multiplying a fraction by a whole number. The students will multiply fractions by whole numbers in different ways: using concrete objects, drawing pictures, and writing equations.

Content/Objective	**Standards**	**Skills – SWBAT**	**Suggested Activities**	**Suggested Assessments**	**Pacing Guide**
Students will… -convert liquid measures. -explore fraction multiplication. -multiply mixed numbers by whole numbers. -solve multistep division stories. -generate and identify patterns. -solve multistep fraction number stories. -solve decimal number stories.	4.NBT.2 4.NBT.4 4.NBT.5 4.NBT.6 4.OA.2 4.OA.3 4.OA.4 4.OA.5 4.NF.1 4.NF.2 4.NF.3a 4.NF.3b 4.NF.3c 4.NF.3d 4.NF.6 4.NF.7 4.MD.1 4.MD.2 4.MD.3 4.MD.4 4.MD.5a 4.MD.5b 4.MD.6 4.MD.7 4.G.1 4.G.3	● Students convert between cups, pints, quarts and gallons. ● Students multiply unit and non-unit fractions by whole numbers. ● Students solve division number stories and number stories involving fractions. ● Students learn to represent fractions as multiples of a unit fraction. ● Students explore multiplying fractions by whole numbers. ● Students explore and convert within the customary units of liquid. ● Students generate and analyze patterns in rectangular numbers. ● Students practice converting between fractions and decimals to solve number stories. ● Students record data on a line plot and answer questions regarding the data.	1. Complete Everyday Math journal pages. 2. Play *Multiplication Wrestling* and *Fraction Multiplication Top-it*. **(Communication and Collaboration) (Critical Thinking and Problem Solving)** 3. Exploring multiplication situations with unit fractions. 4. Students solve a fraction number story. 5. Students discuss division strategies. 6. “Three-fruit Salad”open response (students use fraction tools to create fruit-salad recipes). **(Critical Thinking and Problem Solving)** 7. Students build arrays representing rectangular numbers. 8. Convert cup, pints, quarts and gallons.	● Formative self-assessments (warm ups) ● Menu Math choice board tasks (alternative assessment) ● Math Boxes ● Journal pages ● Open response problems **(Critical Thinking and Problem Solving)** ● Task cards and classroom scoot activities (formative) ● Teacher-created assessments ● Exit tickets (formative) ● Teacher observations ● Home Links ● Summative Unit 7 Assessment ● Measurement Conversion Exploration **(Critical Thinking and Problem**	April/May (approximately 6 weeks)

			9. Students write multistep number stories. **(Creativity and Innovation)** 10. Students share fraction comparison strategies. 11. Students multiply and add fractional weights to solve problems about state birds. 12. Students relate fractions and decimals to money. 13. Students record data on a line plot.	**Solving)** (alternative assessment) ● "Teacher for a Day" Project Based Learning **(FEBEL) (Life and Career Skills)**	

Integrated Components

21st Century Themes	_____ Global Awareness _✔_ Financial, Economic, Business, and Entrepreneurial Literacy _____ Civic Literacy _____ Health literacy
21st Century Skills	__✔__ Creativity and Innovation __✔__ Critical Thinking and Problem Solving __✔___ Communication and Collaboration _____ Information Literacy _____ Media Literacy _✔___Life and Career Skills
Interdisciplinary Connections	-"Teacher for a Day" PBL (Life and Career Skills – CRP2) - Create a poster to explain what a mixed number is and the steps we need to take to turn a mixed number into an improper fraction. (W.4.2 Write explanatory texts to examine a topic)
Integration of Technology	BrainPOP/Flocabulary videos on topics/content Additional practice of skills using IXL.org and xtramath.org Math games projected on the Smartboard through http://sheppardsoftware.com/math.htm Document camera for teacher-guided and student-directed practice Student-created multimedia presentations on multiplication of fractions *NJSLS 8.1 Educational Technology*
Resources	**For teachers:** Everyday Math 4 - Unit 7 - Lessons 7.1 through 7.14 Math Masters Differentiation Handbook Math Game Kit Teacher-created materials Smartboard presentations **For students:** Student Reference Book (hard copy and online version) Measurement conversion reference sheet Fraction notation cards

	Collection of objects with a variety of liquid measurements Measuring tools Family letters Activity cards Math mini offices Agenda Geometry templates
Integrated Accommodations and Modifications	**All Students**: Varied levels of scaffolding and differentiated tasks based on Math Workshop groupings **Modifications for Special Education/504/At-Risk students:** Students practice basic facts using fact triangles. Create *Gallon Man*. Double, triple and quadruple a recipe for trail mix. Review third grade skills. Use the *Guide to Solving Number Stories* in student reference book. Measure water, sand and/or salt with smaller measuring tools and pour contents into larger ones. Practice decomposing large numbers using place value knowledge. Use base ten blocks. Use a visual organizer. **Modifications for ELL students:** Use think-aloud statements to familiarize students with multiplication of fraction concepts. Use labels on items as required. Provide visuals and pictures for math terms in this unit (numerator, denominator, mixed number, etc). Provide students with number lines to visualize concepts. Use gestures for simple word problems. **Modifications for Gifted students**: Students explore converting ounces, pints, quarts and gallons, students answer questions about a dairy that sells milk. Give students opportunities to reduce a recipe for strawberry soup. Build rectangular pyramids with different-size bases and look for patterns.

Subject Area: Mathematics	
Grade Level: Fourth Grade **Unit 8 -** Fraction Operations and Applications	**Brief Summary of Unit**: In Unit 8, students apply their knowledge of fractions, number concepts, patterns, and geometry to different real-world scenarios.

Content/Objective	**Standards**	**Skills – SWBAT**	**Suggested Activities**	**Suggested Assessments**	**Pacing Guide**
Students will… -Extend knowledge of fractions, operations, and angle measures in real-life applications.	4.NBT.4 4.NBT.5 4.NBT.6 4.OA.3 4.NF.1 4.NF.2 4.NF.3a 4.NF.3b 4.NF.3c 4.NF.3d 4.NF.4b 4.NF.4c 4.NF.5 4.NF.6 4.MD.1 4.MD.2 4.MD.3 4.MD.4 4.MD.6 4.MD.7 4.G.1 4.G.3	● Students apply their understanding of the additive nature of angle measures to real-life situations. ● Students apply knowledge of line symmetry. ● Students make line plots. ● Students add and subtract mixed numbers to answer questions regarding data. ● Students compute with fractions and mixed numbers to apply perimeter and area formulas. ● Students convert decimals to fractions. ● Students solve number stories involving multiplication of fractions by whole numbers. ● Students convert liquid measurements. ● Students solve problems with fractions and conversion of units of measure. ● Students use understanding of place value and properties of operations to solve puzzles.	1. Play *Angle Add Up* and *Name that Number*. **(Communication and Collaboration)** 2. Discuss and solve number stories with challenging contexts and phrasing. 3. Brainstorm real-life applications of finding unknown angle measures. 4. “Pattern-Block Angles”open response (students find measures of pattern-block angles and use known angle measures to find measures of other angles). **(Critical Thinking and Problem Solving)** 5. Students find lines of symmetry in quilting patterns and design their own quilt patterns. 6. Collect and plot data in fractions of an inch. 7. Students write multistep number stories. **(Creativity and Innovation)**	● Formative self-assessments (warm ups) ● Menu Math choice board tasks (alternative assessment) ● Math Boxes ● Journal pages ● Open response problems **(Critical Thinking and Problem Solving)** ● Task cards and classroom scoot activities (formative) ● Teacher-created assessments ● Exit tickets (formative) ● Teacher observations ● Home Links ● Summative Unit 8 Assessment ● “Lemonade Stand” Project Based Learning **(Critical Thinking and Problem Solving) (FEBEL)**	June (approximately 4 weeks)

		● Students find equivalent names for numbers.	8. Model and practice solving area and perimeter problems in real-life contexts. 9. Review rules for converting decimals into fractions. 10. Student partners share strategies for solving complex number stories. **(Communication and Collaboration)** 11. Solve conversion problems in relation to recipes and the amounts of various ingredients. **(Life and Career Skills)** 12. Use "Name Collection" boxes to show various ways to name whole numbers, fractions, and decimals.	(alternative assessment) ● BENCHMARK – Everyday Math end-of-year assessment	

Integrated Components

21st Century Themes	_____ Global Awareness _✔_ Financial, Economic, Business, and Entrepreneurial Literacy _____ Civic Literacy _____ Health literacy
21st Century Skills	__✔__ Creativity and Innovation __✔__ Critical Thinking and Problem Solving __✔__ Communication and Collaboration _____ Information Literacy _____ Media Literacy __✔__Life and Career Skills
Interdisciplinary Connections	-"Lemonade Stand" PBL (Social Studies 6.1.4.C) -Various literature connections – read alouds that tie in with Math skills and concepts (ELA.RL.4)
Integration of Technology	BrainPOP/Flocabulary videos on topics/content Additional practice of skills using IXL.org and xtramath.org Math games projected on the Smartboard through http://sheppardsoftware.com/math.htm Document camera for teacher-guided and student-directed practice Student-created multimedia presentations on fraction operation and application concepts *NJSLS 8.1 Educational Technology*
Resources	**For teachers:** Everyday Math 4 - Unit 8 - Lessons 8.1 through 8.14 Math Masters

	Differentiation Handbook Math Game Kit Teacher-created materials Smartboard presentations **For students:** Student Reference Book (hard copy and online version) Paper plate angle measurer Half-circle protractor Measurement conversion reference sheet Fraction notation cards Cubes and counters Graph paper Family letters Activity cards Math mini offices Agenda Geometry templates
Integrated Accommodations and Modifications	**All Students**: Varied levels of scaffolding and differentiated tasks based on Math Workshop groupings **Modifications for Special Education/504/At-Risk students:** Review third grade skills. Use the "Guide to Solving Number Stories" in the Student Reference Book. Use visual organizers as needed. Students construct rectangles and squares of a given perimeter on geoboards. Use base 10 blocks for decimal and fraction conversions. Use grid paper for area and perimeter concepts. **Modifications for ELL students:** Pre-teach some of the vocabulary in word problems. Use think-aloud statements to familiarize students with fraction operation and application concepts. Use real objects or representation of objects that have lines of symmetry. Provide visuals and pictures for math terms in this unit (fractions, mixed numbers, conversion, etc). Provide students with number lines to visualize concepts. Use gestures for simple word problems. **Modifications for Gifted students**: Students write multistep number stories with different operations. Give students opportunities to research and apply mathematical thinking in real-life contexts. Students explore rotation symmetry. Match equivalent unit measures by converting to smaller and smaller units. Students write their own addition and subtraction cryptarithms.

Mine Hill Township School District

(5th Grade/Math)

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October 26, 2020

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Subject Area: Mathematics	
Grade Level: 5th Unit 1 – Volume & Area	**Brief Summary of Unit:** Students will build upon their prior work with area and explore ways to find the area of rectangles with fractional side lengths. Students also learn about volume as an attribute of solid figures. Using improvised units, they explore volume and toward using cubic units and volume formulas.

Content/Objective	Standards	Skills – SWBAT	Suggested Activities	Suggested Assessments	Pacing Guide
Students will… ● Write and interpret numerical expressions. ● Geometric measurement: understand concepts of volume and relate volume to multiplication and to addition.	5.NBT.1 5.NBT.4 5.NF.4 5.NF.4b 5.MD.1 5.MD.3 5.MD.3a 5.MD.3b 5.MD.4 5.MD.5 5.MD.5a 5.MD.5b 5.MD.5c	● Students review area concepts and explore strategies for finding areas of rectangles with fractional side lengths. ● Students find areas of rectangles with fractional side lengths by tiling them with squares of the appropriate unit-fraction side length. ● Students explore the concept of volume as they compare volumes of 3D objects. ● Students use nonstandard units to measure volumes of rectangular prisms. They discuss packing units without gaps/overlaps to obtain an accurate volume measurement. ● Students discuss the benefits of using unit cubes to measure volume. They measure volume by counting the number of cubes it takes to fill a rectangular prism. ● Students relate volume to multiplication and addition by	● Find the area of rectangles with fractional side lengths by counting whole and partial squares. **(CT&PS)** ● Find the area of rectangles with fractional side lengths using a tiling strategy. **(CT&PS)** ● Student partners compare volumes of paper cylinders using a pouring experiment. **(CC) (CT&PS)** ● Student partners measure & compare volumes by packing prisms with various pattern blocks. **(CC) (CT&PS)** ● Student partners calculate volume (of classroom objects) using different formulas. Students explain reasoning for their formula used. **(CC) (CT&PS)** ● Math Readers – Students grouped by reading level work together to read and	● PBL Group Task (Alternative Assessment) – Students solve a real-life business company task. Determine volume and quantity of items per shipment. **(CC) (CT&PS) (FEBEL) (L&CS)** ● Open Response (Quilt Area) – Make sense of different strategies and analyze mistakes in solutions. **(L&CS)** (formative) ● Slate and Oral assessments ● Exit Tickets (formative) ● Teacher Observation ● Teacher-created assessments (formative) ● Summative Unit 1 assessment	September (approximately 4 weeks)

		thinking about iterating layers to find the volumes of prisms. ● Students explain and apply two different formulas for finding the volume of a rectangular prism. ● Students explore units of volume and convert between them. ● Students find volumes of figures composed of rectangular prisms and solve real-world problems involving volume.	complete (volume) activities in readers *(Hot Air Balloon, At the Aquarium).* **(FEBEL) (CC) (CT&PS)** ● Activity Task Cards – (#2) Student partners use dice and grid paper to construct rectangles based on numbers rolled. Students share strategies with partners. ● EDM Games: **(CC) (CT&PS)** ✔ Multiplication Baseball ✔ Prism Pile Up	● BENCHMARK – EDM beginning-of-year assessment	

Integrated Components

21st Century Themes	_____ Global Awareness __X__Financial, Economic, Business, and Entrepreneurial Literacy _____ Civic Literacy _____ Health literacy
21st Century Skills	_____ Creativity and Innovation __X__ Critical Thinking and Problem Solving __X__ Communication and Collaboration _____ Information Literacy _____ Media Literacy __X__Life and Career Skills
Interdisciplinary Connections	**Science**: 5-PS1-1 **ELA**: Dynamath - RI.5.3, RI.5.4, RI.5.5, W.5.1, W.5.2, W.5.4, SL.5.1, SL.5.3, SL.5.4 (Real-world application and practice of Math in DynaMath magazine)
Integration of Technology	Document Camera for teacher-guided and student-directed solutions/strategies; Extra skill practice using IXL.org; Online Math Games display on Smartboard (whole class activity); Student-created presentations *NJSLS 8.1 - Educational Technology*
Resources	**For teachers:** Everyday Math 4 (EDM4) - Unit 1(Lessons 1.1 through 1.12), Teacher Guides, Math Game Kit, Online Teacher Resources; Math Reader Reproducible(s)/CD, (Teacher-Created) Smartboard Presentation, Leveled Math Reader Books **For students:** EDM4 – Student Reference Book, Student Math Journal, Student Home Links Book, Activity Cards(#2), Manipulatives, EDM4 Online Student Resources, Cardboard boxes (varying sizes),
Integrated Accommodations and Modifications	Modifications for Special Education/504/At-Risk students: (Low Level) Math Readers, EDM Readiness Math Master page(s), Manipulatives for modelling how to calculate volume, Use of a visual organizer

	Modifications for ELL students: Provide visuals/pictures for math terms/concepts such as volume and area, Manipulatives for modelling volume concept Modifications for Gifted students: (High Level) Math Readers, Explore Penticubes (Activity Card #2)

Subject Area: Mathematics	
Grade Level: 5th Unit 2 – Place Value (Whole Numbers) & Operations	**Brief Summary of Unit:** Students explore patterns in the base-10 place value system and ways of representing large numbers. They apply their understanding of place value when estimating and computing with multi-digit whole numbers.

Content/Objective	Standards	Skills – SWBAT	Suggested Activities	Suggested Assessments	Pacing Guide
Students will… ● Write and evaluate numerical expressions. ● Use a variety of strategies to multiply and divide multi-digit numbers. ● Convert like measurement units within a given measurement system.	5.NBT.1 5.NBT.2 5.NBT.5 5.NBT.6 5.MD.1 5.OA.1 5.OA.2	● Students explore multiplicative relationships between places in multi-digit numbers *(*Example*: hundreds place is 10 times tens place, hundreds place is 1/10 times thousands place).* ● Students explain patterns in the number of zeros when multiplying by powers of 10. They use whole number exponents to denote powers of 10. ● Students estimate with powers of 10 to solve multiplication problems and check the reasonableness of products. ● Students use U.S. traditional multiplication to multiply ✔ Multi-digit numbers (up to 3 digits) by 1-digit numbers. ✔ Multi-digit by multi-digit numbers. ● Students use unit conversions with the U.S. customary system to solve multistep problems (**one step** unit conversion).	● Students explore place value relationships through writing values of digits in given places of a numeral, write numerals in expanded form (different ways) and write numerals based from place value riddles. ● Discuss patterns in powers of 10 and write numbers in standard and exponential notation. ● Solve word problems by estimating with powers of 10. ● Write expressions, using grouping symbols to model real-world and mathematical situations. **(CT&PS)** ● Practice multiplication of multi-digit numbers with various strategies (Partial Products, Area Model, US Traditional). Use estimation to check that products “make sense”.	● Open Response (Alternative Assessment) (One Million Taps Estimation) -Students estimate how much time it would take to tap on their desks one million times. Then students examine others’ solutions in a class discussion, or using a rubric. Finally, students revise their own work, based on discussion. ● Play “Division Dash” game for assessing division strategies. **(CC)(CT&PS)** ● Slate and Oral assessments ● Exit Tickets (formative) ● Teacher-created assessments (formative) ● Summative Unit 2 assessment	October (approximately 4 weeks)

		• Students use the relationship between multiplication and division to mentally divide multi-digit numbers. • Students review and practice varied strategies for multiplication and division (Partial Products, Partial Quotients, US Traditional – *introduced in 5th grade, but mastered in 6th grade*). • Students use multiples to find and choose partial quotients. • Students use Area Models to visual represent multiplication and division problems. • Students solve division number stories and practice interpreting remainders.	• Compare and contrast the different strategies for multiplication. **(CT&PS)** Recognize/analyze mistakes made in solution examples. • Students work in groups to come up with "silly" Multiplication Number Stories for classmates to solve. • Activity Task Cards – • **Explore Place Value Relationships (#15)** - Student partners practice place value relationships with calculators. • **Solar System Sighting (#16)** - Using their understanding of exponential notation and powers of 10, student partners create multiplication expressions representing distances in the solar system. • **Freight Train Wrap-Around (#17)** – To extend their understanding of multiplication by powers of 10, student partners estimating lengths & distances of freight trains. **(CC) (CT&PS)** • Solve number stories involving conversions of units within the US Customary System. • Solve extended division and use patterns students notice to solve division problems. • Practice division of multi-digit numbers with various strategies (Partial Quotients, Area Model, US Traditional.	• BENCHMARK – Multiplication and division facts running record	

			Use estimation to check that products “make sense”. ● Solve real-world division problems and interpret remainders (ignore it, round up, make decimal/fraction). **(CT&PS)** ● DynaMath Scholastic Magazine – Read article(s) and complete multi-skill tasks. Multimedia content viewed as whole-class. **(IL)** ● EDM Games: **(CC) (CT&PS)** ✔ Number Top It ✔ High Number Toss ✔ Multiplication Baseball ✔ Multiplication Wrestling		

Integrated Components

21st Century Themes	**_____** Global Awareness ____Financial, Economic, Business, and Entrepreneurial Literacy _____ Civic Literacy _____ Health literacy
21st Century Skills	_____ Creativity and Innovation __X__ Critical Thinking and Problem Solving __X__ Communication and Collaboration __X_ Information Literacy _____ Media Literacy __X__Life and Career Skills
Interdisciplinary Connections	**Science**: 5-PS1-2 (conversions) **ELA**: RI.5.4, RI.5.5, RI.5.7, RI.5.10 (Scholastic DynaMath magazine -multi-skill practice), W.5.1, W.5.2, W.5.4, SL.5.1, SL.5.3, SL.5.4 Life and Career Standards – 9.1.4.A.1, 9.1.4.B.1, 9.1.4.B.3, 9.1.4.B.4, 9.1.8.B.7, 9.1.4.C.4, 9.1.4.E.1, 9.1.4.E.2, 9.1.8.E.6, 9.2.4.A.4 (Real-world application and practice of Math in DynaMath magazine)
Integration of Technology	Document Camera for teacher-guided and student-directed solutions/strategies; Extra skill practice using IXL.org; Online Math Games display on Smartboard (whole class activity), Use multimedia resources (dynamath.scholastic.com) to supplement article(s) content, Daily Estimation practice – www.estimation101.com; Student-created presentations *NJSLS 8.1 - Educational Technology*

Resources	**For teachers:** Everyday Math 4 (EDM4) - Unit 2(Lessons 2.1 through 2.13), Teacher Guides, Math Game Kit, Online Teacher Resources; (Teacher-Created) Smartboard Presentation, Place Value Flip chart, Magnetic Place Value visual aid **For students:** EDM4 – Student Reference Book, Student Math Journal, Student Home Links Book, Activity Task Cards (#15-#17), Manipulatives (base-10 blocks), EDM4 Online Student Resources, Place Value and Multiplication Visual Aide (examples), Scholastic DynaMath Magazine (monthly)
Integrated Accommodations and Modifications	Modifications for Special Education/504/At-Risk students: EDM Readiness Math Master page(s), Visual Aide examples modelling various Multiplication & Division strategies, Use playing cards to practice recording extended multiplication facts (Lesson 2.3 Readiness), 'Division Arrays' game to help with the relationship between multiplication and division. Use 'Problem Solving' diagram organizer and blank 'List of Multiples' to assist students. Modifications for ELL students: Model place value using base-10 blocks (unit cube, a long, a flat), Provide visuals/pictures for math terms/concepts, use Total Physical Response prompts for practice using math terms. Modifications for Gifted students: Solar System Sightseeing (Activity Card #16), Freight Train Warp-Around (Activity Card #17), Exploring the Base-5 Number System (Lesson 2.2), Exploring Life Spans (partner conversion activity -Lesson 2.12)

Subject Area: Mathematics	
Grade Level: 5th Unit 3 – Fraction Operations	**Brief Summary of Unit:** Students build on fraction concepts from previous grades to understand fractions as division. They also use visual models to make estimates, add and subtract fractions and mixed numbers, and check reasonableness of their answers. Finally, students explore strategies for solving 'Fraction Of' problems.

Content/Objective	Standards	Skills – SWBAT	Suggested Activities	Suggested Assessments	Pacing Guide
Students will… ● Use equivalent fractions as a strategy add and subtract fractions. ● Apply and extend previous understandings of multiplication and division to multiply and divide fractions.	5.NF.1 5.NF.2 5.NF.3 5.NF.4 5.NF.4A 5.NF.6 5.NBT.6 5.OA.2	● Students solve division number stories that lead to fractional answers. ● Students solve division number stories and write number models to build an understanding of fractions as division. ● Students apply their understanding of fractions as division to report remainders as fractions. ● Students use number lines to represent, compare, and rename fractions. ● Students use fraction number sense to estimate and assess the reasonableness of answers to fraction addition and subtraction problems. ● Students use benchmarks to estimate sums and differences of fractions. ● Students rename mixed numbers and fractions greater	● Use fraction circles to solve model and solve division number stories. **(CT&PS)** ● Students draw illustration(s)/models to solve a division number story with noncircular wholes. **(CT&PS)** ● Student Groups record given fractions, (division) model and create a number story. Think-Pair-Share with other groups. **(CT&PS) (CC)** • Explore various division problems and explore ways to report remainders (fraction, decimal, round up quotient, ignore remainder). **(CT&P)** ● Solve division number stories (Whole Class) using **'Go Solve Word Problems' software program** to promote problem solving strategies. **(CT&PS)** ● Students partition number lines and reason about	● Recipe Conversion Task (Alternative Assessment) – Students determine ingredient amounts when changing the number of servings for a given recipe. ● Open Response (Running) – Students apply skills/concepts to determine whether an answer to a fraction number story is correct. (formative) ● Slate and Oral assessments ● Exit Tickets (formative) ● Teacher Observation	November (approximately 4 weeks)

		than 1 (Improper Fractions) by composing and breaking apart/decomposing wholes. ● Students explore strategies and tools for adding and subtracting fractions and mixed numbers. ● Students use fraction circle pieces to generate equivalent fractions and add fractions. ● Students identify problem-solving strategies and solve a variety of fraction number stories. ● Students solve fraction-of problems (with whole number and fractional answers) to build readiness for multiplying fractions by whole numbers.	whole-number benchmarks to locate fractions on a number line. **(CT&PS)** ● Students make conjectures and construct supporting arguments about the reasonableness of answers. ● Student partners use number lines & benchmarks to estimate fractions sums and differences. **(CC) (CT&PS)** ● Student partners rename mixed numbers and fractions greater than 1 by composing fractional parts into wholes and breaking apart wholes into parts. **(CC) (CT&PS)** ● Students use a variety of strategies to solve addition and subtraction fraction number stories with like and unlike denominators. ● <u>DynaMath Scholastic Magazine</u> – Read article(s) and complete multi-skill tasks. Multimedia content viewed as whole-class. **(IL)** ● <u>Activity Task Cards</u> – ✔ (#29) Student partners create division number stories using fractions generated by number cards	● Teacher-created assessments (formative) ● Summative Unit 3 assessment	

			drawn from a deck. Partner's solve each other's stories. **(CC) (CT&PS)** ✔ (#31) Students compare and translate between fractions and mixed numbers. Extension: generated numbers/fractions are plotted on a number line. ✔ (#40) Students solve "Fraction Of" problems with partners. **(CC) (CT&PS)** ● EDM Games: **(CT&PS) (CC)** ✔ Fraction Top-It ✔ Build It (Fraction) ✔ Fraction Spin		

Integrated Components

21st Century Themes	____ Global Awareness _____Financial, Economic, Business, and Entrepreneurial Literacy _____ Civic Literacy _____ Health literacy
21st Century Skills	_____ Creativity and Innovation __X__ Critical Thinking and Problem Solving __X__ Communication and Collaboration __X__ Information Literacy _____ Media Literacy _____Life and Career Skills
Interdisciplinary Connections	**ELA**: RI.5.3, RI5.4, RI.5.5, RI.5.7, RI.5.10 (Scholastic DynaMath magazine -multi-skill practice), W.5.1, W.5.2, W.5.4, SL.5.1, SL.5.3, SL.5.4 (Real-world application and practice of Math in DynaMath magazine)
Integration of Technology	Document Camera for teacher-guided and student-directed solutions/strategies; 'Go Solve Word Problems' software program (whole class activity), Extra skill practice using IXL.org, illuminations.nctm.org; Online Math Games display on Smartboard (whole class activity), Use multimedia resources (dynamath.scholastic.com) to supplement article(s) content; Student-created presentations *NJSLS 8.1 - Educational Technology*
Resources	**For Teachers:**

	Everyday Math 4 (EDM4) - Unit 3(Lessons 3.1 through 3.15), Teacher Guides, Math Game Kit, Online Teacher Resources; (Teacher-Created) Smartboard Presentation, Tom Snyder's 'Go Solve Word Problems' program & Reproducible(s) **For students:** EDM4 – Student Reference Book, Student Math Journal, Student Home Links Book, Activity Cards(#29, 31, 38, 40), Manipulatives (fraction circles, counters), EDM4 Online Student Resources, SmartPal Clear Sleeves & expo markers, Scholastic DynaMath Magazine (monthly)
Integrated Accommodations and Modifications	Modifications for Special Education/504/At-Risk students: (Readiness Activity) Use counters to identify operations – division, multiplication, addition, subtraction; use Fraction Number Model poster and Number line templates to assist with comparing/ordering fractions, EDM Readiness Math Master page(s), use fraction manipulatives (addition, subtraction problems) Modifications for ELL students: Use manipulatives (counters) to model division concept as "fair share"; use linking cubes, fraction circles or strips to model "composing" (addition) and "decomposing" (subtraction) of fractions. Modifications for Gifted students: 'Sharing A Cost" Activity (EDM Math Master pg85), 'Explore Fractions on a Ruler (EDM Math Masters pg88), 'Break It Up' (Activity Card #38)

Subject Area: Mathematics	
Grade Level: 5th Unit 4 - Decimal Concepts; Coordinate Grids	**Brief Summary of Unit:** Students will extend their understanding of the base-10 place-value system to include decimals. They read, write and represent decimals through thousandths in a variety of ways and learn strategies to compare, order, and round decimals. Students also they apply whole-number algorithms to add and subtract decimals. Lastly, they are introduced to the first quadrant of the coordinate grid.

Content/Objective	Standards	Skills – SWBAT	Suggested Activities	Suggested Assessments	Pacing Guide
Students will… ● Deepen their under-standing of the place-value system. ● Perform operations with multi-digit whole numbers and with decimals to hundredths. ● Graph points on the coordinate plane to solve real-world and mathematical problems.	5.NBT.1 5.NBT.3 5.NBT.3a 5.NBT.3b 5.NBT.4 5.NBT.7 5.G.1 5.G.2 5.NF.5 5.NF.5a 5.OA.3	● Students extend place-value to decimals and practice reading and writing decimals to thousandths. ● Students represent decimals to the thousandths place using base-10 numbers, number names, fractions and thousandths grids. ● Students are introduced to expanded form for decimals. ● Students use place-value strategies to compare decimals to thousandths. ● Students use number lines and place-value understanding to round decimals to a given place. ● Students shade grids to represent and solve decimal addition and subtraction problems. ● Students review whole-number addition and subtraction algorithms to add	● Using Place-Value charts and SmartPal sleeves, students record and write decimals as given orally by teacher – reinforcing value of digits & patterns (x 10) or (x 1/10) as you move between place values. **(CT&PS)** ● Students shade 100^{th} and $1{,}000^{th}$ grids to represent decimals and record them as fractions and word notation. Think-Pair-Share- Students share with partners the impact (or non-impact) that zeroes have within a decimal, or whole number. ● Students translate between different versions of expanded forms for decimals. Use colored pencils to shade each digit on a thousandths grid.	● PBL Group Task (Alternative Assessment) – **(CC) (CT&PS) (FEBEL) (L&CS)** Students work in groups to simulate a real-world restaurant experience: *ordering food, calculating food costs, tips and discounts (diners, waiters).* ● Open Response – ✔ (Lesson 4.15) Students use decimal skills to analyze results of an Olympic competition. (formative) ● Holiday Shopping Project – Students budget money for food and gifts for their family.	December-January (approximately 6 weeks)

		and subtract decimals *(column addition, partial sums, trade-first, counting up & US traditional).* ● Students apply decimal and subtraction strategies to add and subtract money. ● Students are introduced to the coordinate grid and use ordered pairs to plot and identify points (coordinates). ● Students present mathematical problems on a coordinate grid by plotting points and applying rules to ordered pairs. ● Students form ordered pairs, graph them and interpret coordinate values in context.	● <u>Group Activity –</u> <u>(</u>*Comparing & Ordering Decimals)* Student groups generate decimals that are >, <, or = another group's decimal. Groups line up decimals in ascending & descending order. ● Students use grids & number lines to round decimals to nearest whole number, 10^{th} and 100^{th}. ● Students shade grids (one color for each addend) to find the sum of two decimals. Grids also used to solve subtraction of two decimals (by crossing out the subtrahend value). ● Student partners locate places on a map, identify ordered pairs and determine fastest routes between places. **(CC)** ● Students plot points, based on rules, to graph a picture of a sailboat. As rule changes, students identify how their picture's appearance will change. ● <u>DynaMath Scholastic Magazine</u> – Read article(s) and complete multi-skill	(alternative assessment) ● Slate and Oral assessments ● Exit Tickets (formative) ● Teacher Observations *(Restaurant Task, Games)* ● Teacher-created assessments (formative) ● Summative Unit 4 assessment	

			tasks. Multimedia content viewed as whole-class. **(IL)** • Activity Card (#46, Spinning to Round) – **(CC)** Student partners use cards a spinner to practice rounding decimals to a given place. Partners check each other's work. • EDM Games: **(CC) (CT&PS)** ✔ Build It (Decimal) ✔ Top-It (Decimal) ✔ Hidden Treasure ✔ Battleship Board Game		

Integrated Components

21st Century Themes	_____ Global Awareness __X__Financial, Economic, Business, and Entrepreneurial Literacy _____ Civic Literacy _____ Health literacy
21st Century Skills	_____ Creativity and Innovation __X__ Critical Thinking and Problem Solving __X__ Communication and Collaboration ___X_ Information Literacy _____ Media Literacy __X__Life and Career Skills
Interdisciplinary Connections	**ELA**: RI.5.3, RI5.4, RI.5.5, RI.5.7, RI.5.10 (Scholastic DynaMath magazine -multi-skill practice), W.5.1, W.5.2, W.5.4, SL.5.1, SL.5.3, SL.5.4 (Real-world application and practice of Math in DynaMath magazine)
Integration of Technology	Document Camera for teacher-guided and student-directed solutions/strategies; Extra skill practice using IXL.org; Online Math Games display on Smartboard (whole class activity), Use multimedia resources (dynamath.scholastic.com) to supplement article(s) content; Student-created presentations *NJSLS 8.1 - Educational Technology*
Resources	**For teachers:** Everyday Math 4 (EDM4) - Unit 4(Lessons 4.1 through 4.15), Teacher Guides, EDM Math Master pages, Math Game Kit, Online Teacher Resources; (Teacher-Created) Smartboard Presentation, Place Value Flip chart, Magnetic Place Value visual aid, Restaurant Task Supplies (menus, waitress pads, discount cards, data calculation organizer(s)) **For students:**

	EDM4 – Student Reference Book, Student Math Journal, Student Home Links Book, Activity Task Cards (# 45, 46,), Manipulatives (base-10 blocks), EDM4 Online Student Resources; Place Value and Decimal Grids, Number Line Templates, SmartPal Clear Sleeves & expo markers, calculators, Scholastic DynaMath Magazine (monthly)
Integrated Accommodations and Modifications	Modifications for Special Education/504/At-Risk students: Use Place Value flip chart & magnetic visual aid to reinforce naming & writing decimals; 'Representing Times-10 and 1/10th Patterns' (Lesson 4.1 Readiness), Modifications for ELL students: Model place value using base-10 blocks (unit cube, a long, a flat); Use pattern blocks to create simple & non-examples of patterns (prepare for place-value patterns); Provide visuals/pictures for decimal terms (ending in TH - **tenths**) vs. whole number terms (**tens**); Use Total Physical Response for "expanded" term (using hands/arms spread out); Place Vocabulary Cards on (anchor chart) Coordinate Grid. Modifications for Gifted students: 'Exploring Decimals with Metric Units' (Enrichment Lesson 4.1) students look for patterns as they measure between metric units of length; 'Exploring Batting Averages' (Enrichment Lesson 4.4); Assigned 'waiter' role in Restaurant Task- calculate total bill for all diners and perform money transaction; Designs with Decimal Coordinates (Enrichment Lesson 4.6)

Subject Area: Mathematics	
Grade Level: 5th Unit 5 – Fraction Operations	**Brief Summary of Unit:** Students will deepen their understanding of fractions and develop strategies for adding and subtracting fractions and mixed numbers with unlike denominators. They also connect fraction of thinking to multiplication and generalize a fraction multiplication algorithm. Finally, students are introduced to fraction division.

Content/Objective	Standards	Skills – SWBAT	Suggested Activities	Suggested Assessments	Pacing Guide
Students will… ● Use equivalent fractions as a strategy to add and subtract fractions. ● Apply and extend previous understand-ing of multiplication and division (using fractions).	5.NF.1 5.NF.2 5.NF.3 5.NF.4 5.NF.4a 5.NF.4b 5.NF.5 5.NF.5a 5.NF.5b 5.NF.6 5.NF.7 5.NF.7a 5.NF.7b 5.NF.7c	● Students use equivalent fractions to find common denominators and solve problems. ● Students solve problems involving addition of fraction and mixed numbers. ● Students solve problems involving subtraction of fraction and mixed numbers. ● Students solve "Fraction Of" problems and connect them to multiplication of fractions by whole numbers. ● Students discuss/apply multiplying fractions by whole numbers. ● Students use area models to find fraction products. ● Students use area models to understand/apply an algorithm for fraction multiplication.	● Use Multiplication Rule to make equivalent fractions. ● Students rename pairs of fractions using a Common Denominator. ● Students apply various strategies for finding Common Denominators (*List Equivalent Fractions, One Denominator is a Multiple of the other, Multiply denominators together to get an original common denominator*). ● Use estimation to check reasonableness of (fraction) sums & differences. ● Students use equivalent fractions & common denominators to add and subtraction fractions and mixed numbers (with unlike denominators).	● PBL Group Task (Alternative Assessment) – Students analyze Rainfall data in a chart and answer questions by providing evidence from a weather report passage. Calculate sums and differences (fraction & mixed number) between days of the week. Students visually represent the data (line graph, bar graph, number line). Use of TI-15 calculator to check fraction answers. **(CC) (CT&PS) (FEBEL) (L&CS)** ● Open Response –	January – February (approximately 4 weeks)

		• Students relate the multiplication rule to the effect of multiplying by 1. • Students use models to divide whole numbers by unit fractions.	• Using manipulatives, students solve "Fraction Of Whole Number" problems. Students develop an algorithm for this type of multiplication. • Use paper folding techniques to find "Fraction of Fractions" and to represent number models. • Use area models to find products with fractional sides. • Students create story text for fraction multiplication problems. **(C&I)** • Students use visual models to divide whole numbers by unit fractions. • DynaMath Scholastic Magazine – Read article(s) and complete multi-skill tasks. Multimedia content viewed as whole-class. **(IL)** • Activity Card (#57, Finding Common Denominators) – **(CC)** Student partners use fraction cards to make fractions and then find a common denominator. • Activity Card (#59, For-in-a-Row Fraction	✔ Sharing Breakfast (Lesson 5.10) Students solve a fraction number story by interpreting a drawing and explaining how it models the story. (formative) ✔ Fresh Fruit Smoothie (Lesson 5.15) Students solve a multi-step fraction number story involving calculating ingredients for a fruit smoothie for a family of 6. (formative) • Slate and Oral assessments • Exit Tickets (formative) • Teacher Observations *(Assess use of different strategies to find Common Denominators, Visual models of: Fraction Multiplication & Division)*	

			Addition) – **(CC)** Student partners practice finding sums on a grid to get 4 in a row. Students share strategies. ● Activity Card (#60, For-in-a-Row Fraction Subtraction) – **(CC)** Student partners practice finding differences on a grid to get 4 in a row. Students share strategies. ● Activity Card (#65 Using Area Models to Multiply Fraction) – **(CC)** Students use Area Models to practice fraction (unit) multiplication. ● EDM Games: **(CC) (CT&PS)** ✔ Build It (With Common Denominators) ✔ Buzz or Bizz-Buzz ✔ Fraction Of ✔ Top-It (Fraction)	● Teacher-created assessments (formative) ● Summative Unit 5 assessment ● BENCHMARK – EDM middle-of-year assessment	

Integrated Components

21st Century Themes	**_____** Global Awareness __X__Financial, Economic, Business, and Entrepreneurial Literacy _____ Civic Literacy _____ Health literacy
21st Century Skills	_____ Creativity and Innovation __X__ Critical Thinking and Problem Solving __X__ Communication and Collaboration ___X_ Information Literacy _____ Media Literacy __X__Life and Career Skills
Interdisciplinary Connections	**ELA**: RI.5.3, RI5.4, RI.5.5, RI.5.7, RI.5.10 (Scholastic DynaMath magazine -multi-skill practice), W.5.1, W.5.2, W.5.4, SL.5.1, SL.5.3, SL.5.4 (Real-world application and practice of Math in DynaMath magazine)

Integration of Technology	Document Camera for teacher-guided and student-directed solutions/strategies; Extra skill practice using NCTM Illuminations website, VisualFractions.com, IXL.org; Online Math Games display on Smartboard (whole class activity), Use multimedia resources (dynamath.scholastic.com) to supplement article(s) content; Student-created presentations *NJSLS 8.1 - Educational Technology*
Resources	**For teachers:** Everyday Math 4 (EDM4) - Unit 5(Lessons 5.1 through 5.15), Teacher Guides, EDM Math Master pages, Math Game Kit, Online Teacher Resources; (Teacher-Created) Smartboard Presentations, Graph Posters (Line/Bar/Line Graphs) **For students:** EDM4 – Student Reference Book, Student Math Journal, Student Home Links Book, Activity Task Cards (# 57,59,60,65), Manipulatives (counters), EDM4 Online Student Resources; SmartPal Clear Sleeves & expo markers, calculators, Scholastic DynaMath Magazine (monthly)
Integrated Accommodations and Modifications	Modifications for Special Education/504/At-Risk students: Use of fraction circle manipulatives(equivalent fractions, addition & subtraction problems), Renaming Fractions Greater than 1 (Improper Fraction) and Renaming Mixed Numbers (Lesson 5-3 and 5-4 Readiness), Use of Counters (Fraction Of problems) and Area Models (fraction multiplication) Modifications for ELL students: Label visual aides with vocabulary words (factor, multiple, equivalent); Use Total Physical Response gestures for *vertical* and *horizontal words* (paper folding tasks). Modifications for Gifted students: Build It Game with Common Denominators (Activity Task Card #58), Predicting Sizes of Products (Activity Task Card #62), Exploring a Pattern for Fraction Subtraction (Lesson 5-4 Enrichment), Solving Multistep "Fraction Of" problems (Lesson 5-7 Enrichment), Exploring Division with Non-Unit Fractions (Lesson 5-13 Enrichment)

Subject Area: Mathematics	
Grade Level: 5th Unit 6 – Measurement Investigation with Decimal Multiplication & Division	**Brief Summary of Unit:** Students apply their understanding of place value to multiply and divide decimals by powers of 10. They investigate how patterns in powers of 10 can be used to convert measurements in metric units, learn how line plots can be used to organize and analyze measurement data, and explore a method for finding volumes of figures that are not rectangular prisms. Students also extend whole number methods to multiply and divide decimals.

Content/Objective	Standards	Skills – SWBAT	Suggested Activities	Suggested Assessments	Pacing Guide
Students will… ● Understand the Place Value system. ● Perform operations with multi-digit whole numbers and with decimals to hundredths. ● Represent and interpret data.	5.NBT.1 5.NBT.2 5.NBT.3a 5.NBT.3b 5.NBT.5 5.NBT.6 5.NBT.7 5.NF.1 5.NF.2 5.NF.5a 5.NF.5b 5.MD.1 5.MD.2 5.MD.3 5.MD.4 5.MD.5 5.MD.5b 5.MD.5c 5.OA.1	● Students explain patterns in the placement of the decimal point when multiplying and dividing by Powers of 10. ● Students apply their understanding of multiplication and division by Powers of 10 to convert measurements in metric units. ● Students create line plots to display measurement data in fractions of a unit. They use operations with fractions to solve problems based on the line plot data. ● Students apply their knowledge of volume concepts to calculate the volume of a building. ● Students use displacement to measure the volume of objects. ● Students use estimation and number sense to predict the	• Whole class discussion -strategies for writing numbers with decimals and exponents in standard notation (3.2 million, 3.2×10^6). ● Students use calculators and record patterns in the placement of the decimal point when multiplying and dividing Powers of 10. ● Think-Pair-Share: Students discuss how metric units are based on Powers of 10 and practice converting between metric units. **(CC)** ● Solve real-world problems involving metric conversions. Represent problem with a visual model. ● Students make line plots to display: the lengths of their pencils and classmate's heights. Line plots are	● PBL Group Task (Alternative Assessment) – Students evaluate a strategy for finding volume and estimate volume of a famous building (Chicago's Willis Tower). Student groups make (& present) posters summarizing their work. **(CC) (C&I) (CT&PS) (FEBEL) (L&CS)** ● Open Response – ✔ (Lesson 6.10) Fundraising Students solve a multi-step number story using decimals and explain how they know their answer	February-March (approximately 4 weeks)

		relative size of decimal products and quotients. ● Students learn two strategies for solving decimal multiplication problems. ● Students create equivalent problems to help them solve division problems when dividing decimals by whole numbers.	analyzed to solve problems. <u>Group Task</u>: Student groups create a tool (calibrated bottle) to measure volume. **(CC) (C&I) (CT&PS)** ● Measure volumes in milliliters and cubic centimeters to connect liquid volume (ml) to solid volume (cm). ● Students write estimation number sentences and place decimal points into products of given multiplication & division problems (with decimals in both factors and/or quotients & dividends). ● Use 2 strategies to solve decimal multiplication problems. Compare and contrast the strategies. ● Divide decimals (as if whole numbers) and use estimation to place the decimal point into quotient. (*Decimal divided by Whole Number problems*). ● Use equivalent problems to solve *decimal by decimal* division problems. ● Student pairs collect reaction-time data and create a line plot. They	makes sense. Following sharing of student's work, students can revise their own work, as needed. (formative) ● Slate and Oral assessments ● Exit Tickets (formative) ● Teacher Observations *(Writing standard notation, Use of estimation to place decimal point – multiplication & division problems, Converting within metric units)* ● Teacher-created assessments (formative) ● Summative Unit 6 assessment	

			compute with decimals to identify typical reaction times and to estimate a total class reaction time. **(CC) (CT&PS)** ● Math Readers – Students grouped by reading level work together to read and complete (decimals) activities in readers *(Grandpa's Birthday Present, My Store at the Mall).* **(CC), (CT&PS) (FEBEL) (IL)** ● EDM Games: **(CC) (CT&PS)** ● Exponent Ball ● Decimal Domination ● Spend and Save ● Prism Pile-Up ● Top-It (Decimal)		

Integrated Components

21st Century Themes	____ Global Awareness _X_Financial, Economic, Business, and Entrepreneurial Literacy _____ Civic Literacy _____ Health literacy
21st Century Skills	__X__ Creativity and Innovation __X__ Critical Thinking and Problem Solving __X__ Communication and Collaboration ___X_ Information Literacy _____ Media Literacy __X__Life and Career Skills
Interdisciplinary Connections	**ELA**: RI.5.3, RI5.4, RI.5.5, RI.5.7, RI.5.10 (Math Readers), W.5.1, W.5.2, W.5.4, SL.5.1, SL.5.3, SL.5.4 (Real-world application and practice of Math in DynaMath magazine)
Integration of Technology	Document Camera for teacher-guided and student-directed solutions/strategies; Extra skill practice using NCTM Illuminations website, IXL.org; Online Math Games display on Smartboard (whole class activity); Student-created presentations *NJSLS 8.1 - Educational Technology*
Resources	**For teachers:**

	Everyday Math 4 (EDM4) - Unit 6(Lessons 6.1 through 6.13), Teacher Guides, EDM Math Master pages, Math Game Kit, Online Teacher Resources; (Teacher-Created) Smartboard Presentation, Place Value Flip chart, Math Reader Reproducible(s)/CD, (Leveled) Math Reader Books **For students:** EDM4 – Student Reference Book, Student Math Journal, Student Home Links Book, Activity Task Cards (# 13, 74, 81), Manipulatives (base-10 blocks), EDM4 Online Student Resources; Place-Value Chart, SmartPal Clear Sleeves & expo markers, calculators, rulers & meter sticks or tape measures, various 3D objects (that can be modelled with rectangular prisms),
Integrated Accommodations and Modifications	Modifications for Special Education/504/At-Risk students: Use of manipulatives (Base-10 Blocks) for decimal placement tasks, (Lower Level)Math Readers, Interpreting Line Plot Data (Lesson 6-5 Readiness), Reviewing Volume Strategies (Lesson 6-6 Readiness/Activity Card #13), Use of a table to record building dimensions, Place Value charts, calculators to check products & quotients Modifications for ELL students: Use role play to introduce vocabulary (nearest, nearer, farthest, farther), Play money (coins & bills) to model sharing/dividing and multiplying with decimal amount. Modifications for Gifted students: (High Level) Math Readers, Converting the Distance to the Moon (Lesson 6-3 Enrichment), A Measurement Investigation (Activity Card #74),

Subject Area: Mathematics	
Grade Level: 5th Unit 7 – Mixed Number Multiplication; Geometry: Graphs	**Brief Summary of Unit:** Students learn strategies to multiply mixed numbers. They use these methods to find the area of rectangles with fractional sides and to solve problems involving fraction data in line plots. Students also review attributes of 2-dimensional figures and classify shapes on a hierarchy based on properties. Finally, students graph points on coordinate grids to visualize numerical patterns and represent real-world problems.

Content/Objective	Standards	Skills – SWBAT	Suggested Activities	Suggested Assessments	Pacing Guide
Students will… ● Analyze patterns and relationships. ● Apply and extend previous understandings of multiplication and division. ● Classify 2-dimenstional figures into categories based on their properties.	5.NF.1 5.NF.2 5.NF.3 5.NF.4 5.NF.4a 5.NF.4b 5.NF.5 5.NF.5a 5.NF.5b 5.NF.6 5.NF.7 5.NF.7a 5.NF.7b 5.NF.7C 5.G.1 5.G.2 5.G.3 5.G.4 5.MD.1 5.MD.2 5.OA.3	● Students use area models and partial products to multiply mixed numbers. ● Students multiply mixed numbers to find areas with fractional sides. ● Students use common denominators to rename dividends and divisors in fraction division problems. ● Students classify triangles in a hierarchy based on properties. ● Students organize and represent fractional data on line plots. ● Students use rules to generate sequences, identify relationships between terms and graph points on a coordinate grid. ● Students analyze patterns and rules in tables, create graphs to represent real-world data.	● Whole class discussion – How area models are used to represent whole number multiplication, advantages and common misconceptions. ● Students create area models to solve mixed number multiplication problems. Mixed numbers are converted to fractions is another strategy used. ● Think-Pair-Share – Students partners solve real-world mixed number multiplication problems and use area models to explain their strategy with partners. **(CC)** ● Using graph paper, students use “tiling with squares” method to find the area of a rectangle with fractional sides. **(CT&PS)**	● PBL Group Task (Alternative Assessment)– Predicting Old Faithful’s Eruptions. Student groups use a scientific formula (Wait Time) to create a table with ordered pairs predicting the next eruption of the Old Faithful Geyser in Yellowstone National Park. After recording data, students create a graph and then test their data by watching a live webcam of the geyser from the internet. **(CC) (C&I) (CT&PS) (L&CS)** ● Open Response –	March – April (approximately 6 weeks)

			• Students complete division by fraction problems with whole numbers being converted into fractions (with common denominators). • Student partners collect data on their own "natural measures" (arm & hand spans, cubit, joint) using fractional units. Students create line plots with data and answer questions as they interpret line plot data. • Using (In/Out) tables with data, students identify sequences and underlying rules. • Students form ordered pairs (based on table rules) and graph them. Students discuss how the graphs show patterns and relationships. • Examine patterns in table of real-world values (MPH, WPM, Earnings, etc.). Use data to create line graph and answer questions. **(IL)** • <u>Math Readers</u> – Students grouped by reading levels read and complete (graphing) tasks/questions	✔ (Lesson 7.8) Hierarchy of Polygons ✔ (Lesson 7.14) Quadrilateral Hierarchy) Students create a hierarchy with given polygons/quadril-aterals based on properties. Students analyze and discuss other student's hierarchy and then revise their work, if needed. (formative) • Slate and Oral assessments • Exit Tickets (formative) • Teacher Observations *(Mixed Number Multiplication, Recording data, Identifying Patterns & Relationships in Tables, Graphing Coordinate Pairs, Problem-Solving in Groups)*	

			from the math readers.(*Shipwreck Detectives, Ocean Maps*) **(IL) (CC), (CT&PS) (FEBEL)** ● <u>EDM Games</u>: **(CC) (CT&PS)** ✔ Spoon Scramble ✔ Exponent Ball ✔ What's My Attribute Rule ✔ Property Pandemonium ✔ "I Have Who Has" (Geometry)	● Teacher-created assessments (formative) ● Summative Unit 7 assessment	

<u>Integrated Components</u>

21st Century Themes	_____ Global Awareness _X_Financial, Economic, Business, and Entrepreneurial Literacy _____ Civic Literacy _____ Health literacy
21st Century Skills	__X__ Creativity and Innovation __X__ Critical Thinking and Problem Solving __X__ Communication and Collaboration ___X_ Information Literacy _____ Media Literacy __X__Life and Career Skills
Interdisciplinary Connections	**ELA**: RI.5.3, RI5.4, RI.5.5, RI.5.7, RI.5.10 (Math Readers), W.5.1, W.5.2, W.5.4, SL.5.1, SL.5.3, SL.5.4 (Real-world application and practice of Math in DynaMath magazine)
Integration of Technology	Document Camera for teacher-guided and student-directed solutions/strategies; Extra skill practice using NCTM Illuminations website, IXL.org; Online Math Games display on Smartboard (whole class activity), Yellowstone NPS Webcam http://www.nps.gov/features/yell/webcam/oldFaithfulStreaming.html; Student-created presentations *NJSLS 8.1 - Educational Technology*
Resources	**For teachers:** <u>Everyday Math 4 (EDM4)</u> - Unit 7(Lessons 7.1 through 7.13), Teacher Guides, EDM Math Master pages, Math Game Kit, Online Teacher Resources; (Teacher-Created) Smartboard Presentation, Math Reader Reproducible(s)/CD, "I Have Who Has" game cards, (Leveled) Math Reader Books **For students:**

	EDM4 – Student Reference Book, Student Math Journal, Student Home Links Book, Activity Task Cards, Manipulatives, EDM4 Online Student Resources; SmartPal Clear Sleeves & expo markers, calculators, rulers & meter sticks or tape measures,
Integrated Accommodations and Modifications	Modifications for Special Education/504/At-Risk students: (Low Level) Math Readers, Identifying and Describing Rules (Lesson 7-10 Readiness), transparency sheet for lining up coordinates (X,Y), Modifications for ELL students: Use role play involving class rules to explain "rules", Use dominos and playing cards to explain "correspond" or "goes with" (X,Y Coordinates) Modifications for Gifted students: (High Level) Math Readers , Jump Heights on the Moon & Planets (Lesson 7-2 Enrichment), Visualizing Patterns in Data (Lesson 7-10 Enrichment), Explore In/Out tables that involve more than one operation

Subject Area: Mathematics	
Grade Level: 5th Unit 8 – Applications of Measurement, Computation & Graphing	**Brief Summary of Unit:** Students apply and extend many skills and concepts they learned throughout the year to engaging, real-world contexts. Students also graph and analyze data from investigations.

Content/Objective	Standards	Skills – SWBAT	Suggested Activities	Suggested Assessments	Pacing Guide
Students will… ● Perform operations with multi-digit whole numbers and with decimals to hundredths. ● Convert like measurements within a given measurement system. ● Graph points on a coordinate grid plane to solve real-world and mathematical problems.	5.NBT.4 5.NBT.5 5.NBT.7 5.NF.1 5.NF.4 5.NF.4b 5.NF.6 5.NF.7 5.G.1 5.G.2 5.MD.1 5.MD.2 5.MD.3 5.MD.5 5.MD.5a 5.MD.5b 5.MD.5c 5.OA.3	● Students make unit conversions to find area of sports playing surfaces. ● Students apply length, area and volume concepts to real-world situation. ● Students use decimal concepts in real-world task of spending and budgeting money. ● Students convert measurement units and perform multi-digit whole number and decimals to solve distance and time problems. ● Students apply their knowledge of place value and coordinate grids in a pendulum swing investigation.	● Students dimensions of various sport playing surfaces to calculate surface area and determine optimal layout for a proposed Athletic Center. Students draw out proposed athletic fields, courts, rinks, pool, etc. ● Student partners work collaboratively to choose the appropriate fish tank for their room(s) based on specific fish requirements, tank specification and room dimensions. ● Student groups determine major spending categories for opening and operating an animal shelter. Groups research prices to plan spending for assigned categories. Students adjust budgets to bring it closer to $1,000,000.	● PBL Group Task (Alternative Assessment) – Student groups are given a real building blueprint. They are tasked with remodeling the building based on the boss's instruction. Groups will present their new blueprint with revised calculations (area, volume, perimeter) to the class. **(CC) (C&I) (CT&PS) (L&CS)** ● Open Response – ✔ (Lesson 8.4) A Treasure Hunt Students investigate a problem that occurred on a	May – June (approximately 6 weeks)

			● Student partners determine the length of 1 footstep. They use this information to determine how many footsteps and the amount of time to travel from school to (Mets) Citi Field, NY. ● Students investigate pendulum swings and the effect of the length of the string on the swing. Students measure swings and graph results. ● <u>EDM Games</u>: **(CC) (CT&PS)** ✔ Spoon Scramble ✔ Exponent Ball ✔ Property Pandemonium ✔ Muggins (Mental Math)	treasure hunt and use volume to determine if they can escape. (formative) ● Slate and Oral assessments ● Exit Tickets (formative) ● Teacher Observations *(Problem-Solving strategies, Measuring, Applying Formulas, Decimal/Money operations)* ● Teacher-created assessments (formative) ● Summative Unit 8 assessment ● BENCHMARK – EDM end-of-year assessment	

<u>Integrated Components</u>

21st Century Themes	_____ Global Awareness _X_Financial, Economic, Business, and Entrepreneurial Literacy _____ Civic Literacy _____ Health literacy
21st Century Skills	__X__ Creativity and Innovation __X__ Critical Thinking and Problem Solving __X__ Communication and Collaboration ___X_ Information Literacy _____ Media Literacy __X__Life and Career Skills
Interdisciplinary Connections	**ELA**: RI.5.3, RI5.4, RI.5.5, RI.5.7, RI.5.10**,** W.5.1, W.5.2, W.5.4, SL.5.1, SL.5.3, SL.5.4, Life and Career Standards – 9.1.4.E.1, 9.1.4.E.2, 9.1.8.E.6, 9.2.4.A.4, (Real-world application and practice of Math in DynaMath magazine)

Integration of Technology	Document Camera for teacher-guided and student-directed solutions/strategies; Extra skill practice using NCTM Illuminations website, IXL.org; Online Math Games display on Smartboard (whole class activity), Google Maps; Student-created presentations *NJSLS 8.1 - Educational Technology*
Resources	**For teachers:** Everyday Math 4 (EDM4) - Unit 8(Lessons 8.1 through 8.12), Teacher Guides, EDM Math Master pages, Math Game Kit, Online Teacher Resources; (Teacher-Created) Smartboard Presentation, Google Maps Directions from CAS to Citi Field **For students:** EDM4 – Student Reference Book, Student Math Journal, Student Home Links Book, Activity Task Cards, Manipulatives, EDM4 Online Student Resources; SmartPal Clear Sleeves & Expo markers, Calculators, Reference Conversion Sheet, Pet Store Advertisements, Stop Watch, Rulers, Google Map printouts, string/yarn, metal washers
Integrated Accommodations and Modifications	Modifications for Special Education/504/At-Risk students: Break down assignments into specific tasks, use of: grid paper, calculators, budget sheets to aid in recording data, Making Multi-Step Conversions (Lesson 8-10 Readiness) Modifications for ELL students: Use (real-world) pictures, videos, internet to explain application measurement tasks/situations Modifications for Gifted students: Designing a Fish Tank (Activity Card #97), Using Fractions to Adjust Spending (Activity Card #99), Donating Blood (Lesson 8-10 Enrichment)

Mine Hill Township School District

(6th Grade/Math)

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Approval date:
October 26, 2020

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Subject Area: **Mathematics**	
Grade Level: 6 Unit 4 - Expressions and Equations	**Brief Summary of Unit: Expressions and Equations:** **Represent and analyze quantitative relationships between dependent and independent variables.**

Content/Objective	Standards	Skills – SWBAT	Suggested Activities	Suggested Assessments	Pacing Guide
·When writing algebraic sentences/equations from verbal statements that subtraction and division is not commutative (y -3 is not the same as 3 –y) · That parentheses are important when evaluating expressions, i.e. -3^2 is not the (-3)^2 · That the properties of operations can be used to simplify mathematical thinking. · Being able to write an equation or inequality can help solve real world problems and realize that equations are not just random numbers and letters. · Know how to write and evaluate expressions with exponents. · Use appropriate	6.EE.A.1 6.EE.A.2 6.EE.A.3 6.EE.A.4 6.EE.B.5 6.EE.B.6 6.EE.B.7 6.EE.B.8 6.EE.C.9	·Apply and extend previous understandings of arithmetic to algebraic expressions by writing and evaluating numerical expressions involving whole number exponents · Write expressions in which letters stand for numbers by being able to translate verbal statements to algebraic expressions/equations/inequalities and then back to verbal sentences. · Apply the standard order of operations by using the substitution property to evaluate expressions. · Apply the properties of operations by mathematically manipulating expressions to solve linear equations. · Illustrate applications of the distributive and commutative properties. · Investigate patterns by using algebraic symbolism to explain data in a table. • use variables to represent two quantities in a real-world problem that change in relationship to one another. • write an equation to express one quantity, thought of as the dependent variable, in terms of the other quantity, thought of as the independent variable. • analyze the relationship between the dependent and independent variables using graphs and tables, and relate these	**Math Readers: Group students according to reading level. Students work in groups reading and completing the activities for "Watch it grow", "Land Animals", "Where Germs Lurk", and "Sea Creatures". (FEBEL)(IL)(LCS)** **Holiday Shopping Project (FEBEL)** **A science experiment to answer the question "What Happens When an Object is Dropped?" (d=16T^2) (CT&PS and CC)** **Play "Spreadsheet Scramble". (CT&PS and CC)** **Evaluate formulas using a spreadsheet. (CT&PS)** **Create word sentences and translate them into number sentences. Create number sentences and translate them into word sentences. (CT&PS)** **Use absolute value to find distances on a coordinate grid. (CT&PS)**	Slate and oral assessment Mental math and daily practice Formative assessment – check-ins and quizzes. Open response (math readers) (formative) **Creating a problem/project for peer to solve. Check their work. (CT&PS and CC) (alternative assessment)** **Holiday Shopping Project (FEBEL)** **Benchmarks: Summative Unit 4 progress check**	February and March (6 to 8 weeks) And May (2 weeks)

vocabulary when discussing parts of an equation or inequality, i.e. term, sum, quotient, factor, product, coefficient) · Use the distributive property to generate equivalent expressions · Check equations for equivalency. · Know the algorithm for solving one-step equations and inequalities. · use variables to represent two quantities in real world problems · write, and plot on a number line a solution to an equation and inequality		to the equation.	**"Hands-On Equations" Program (CT&PS and CC)** **Graph inequalities. (CT&PS)** **Complete activities in Student math Journals and Study Link Books (CT&PS and CC)** **Play "I HAVE, WHO HAS?" (CT&PS and CC)** **Use equations to solve mobile problems (Create Mobiles) (CT&PS)**		

Integrated Components

21st Century Themes	____ Global Awareness ___X__Financial, Economic, Business, and Entrepreneurial Literacy _____ Civic Literacy _____ Health literacy
21st Century Skills	_____ Creativity and Innovation __X___ Critical Thinking and Problem Solving __X___ Communication and Collaboration __X___ Information Literacy _____ Media Literacy __X___Life and Career Skills
Interdisciplinary Connections	Language Arts - Math Readers - LA.6-8.ELA-Literacy.W.9; LA.6-8.ELA-Literacy.WHST.6-8.9
Integration of Technology	Smart board to present interactive lessons; chrome books and computer lab for holiday shopping project and to evaluate formulas using a spreadsheet. *NJSLS 8.1 Educational Technology*
Resources	For Teachers: EDM4, all resources,3.1-3.3, 3.5-3.8,3.10; 4.10;6.7-6.11; Math readers; Supplemental lessons. For Students: EDM4, all resources; Math readers "Watch It Grow", "Land Animals."
Integrated Accommodations and	Modifications for Special Education/504/At-Risk students: Leveled Math readers "Where Germs Lurk" and "Sea Creatures", EDM

Modifications	Readiness Math Masters, use of additional manipulatives and visual reinforcements Modifications for ELL students: Visuals/translated cards with expression and equation terms. Illustrate, role play, use of graphic organizers, pair with native speakers. Modifications for Gifted students: Exploring number patterns; finding true, and not-true special cases; use algebraic expressions to describe geometric patterns; deriving a brick wall formula; graph compound inequalities.

Subject Area: **Mathematics**	
Grade Level: 6 Unit 5 - Geometry	**Brief Summary of Unit: Geometry:** **Solve real-world and mathematical problems involving area, surface area, and volume.**

Content/Objective	Standards	Skills – SWBAT	Suggested Activities	Suggested Assessments	Pacing Guide
•polygons can be de-constructed into triangles and rectangles for the purpose of finding the area of the polygon. • a 2-D net of a 3-D figure can be used to find the surface area of the figure. •That perimeter is the number of LINEAR units needed to surround a 2-dimensional shape. • surface area is related to the covering of a surface with square units. • volume is related to "filling" of space with cubic units, of any size (1/4 unit, 1 unit, etc.) · Algebra and geometry are	**6.G.A.1** **6.G.A.2** **6.G.A.3** **6.G.A.4**	· formulate techniques for exactly figuring out and estimating areas and perimeters of geometric and non-geometric figures · Comprehend how the perimeters of rectangles can vary considerably by given situations where the areas are held constant. · Analyze maximum and minimum perimeter and area by exploring problems involving rectangles of a fixed area and perimeter. · Analyze the relationship between rectangles and parallelograms by using unit squares to justify equivalent areas of figures given the same base and height. · Use the relationships between rectangles and parallelograms and between parallelograms and triangles to develop techniques for finding the area and perimeter of triangles. · Apply techniques for finding areas and perimeters of rectangles, parallelograms and triangles by giving a variety of problem situations. · Evaluate area of triangles by having students demonstrate visually on centimeter grid paper that the area of a triangle is half that of the area of a	**Math Readers: Group students according to reading level. Students work in groups reading and completing the activities for "Landscape by Design", "A Sense of Art", "Package Design", and "Pack It Up". (FEBEL) (IL) (LCS)** **Investigate area and perimeter by graphing. (CT&PS)** **Investigate the Distributive property using area models of 2 dimensional shapes. (CT&PS)** **Create a spreadsheet to explore the circumference and area of circles. (CT&PS and CC)** **Use various packages to determine surface area. Pack with cubes of various units to determine volume. (CT&PS)** **Knowing how to find the area of a 2-dimension shape, write the formula for a 3-dimensional shape and describe. (CT&PS)**	Slate and oral assessment Mental math and daily practice Formative assessment – check-ins and quizzes Open response (math readers) (formative) **Creating a problem/project for peer to solve. Check their work. (CT&PS and CC) (alternative assessment)** **Summative Unit 5 assessment** **Benchmarks:** **EDM End-of-year post-assessment**	April and May (6 to 8 weeks) And June (1 week)

integrated in that geometry is the pictorial representation of algebra.		rectangle. · Use synthesis to develop strategies for finding areas and perimeters of non-rectangular shapes · Use synthesis to construct a polygon on a rectangular coordinate grid by given coordinates and asking the student to find the remaining coordinates to complete the figure. · Analyze volume of a rectangular figure by packing unit cubes and verifying that the volume is the same as multiplying the edge lengths of the prism. · Analyze three dimensional figures by examining the nets of a specific three dimensional figure and then using the nets to build the three dimensional figure. · Analyze three dimensional figures by having the students construct the net of the given polyhedron · Apply the algorithms for area and perimeter by having the students explain how to find the area and perimeter of given figures.	**Using grid paper, find the area of a triangle of various quadrangles. (CT&PS)** **Estimate the volume of the human body through measurement. (CT&PS and CC)** **Complete activities in Student math Journals and Study Link Books (CT&PS and CC)** **Create a math poem. (CT&PS)** **Create an Escher type tessellation. (CT&PS)**		

Integrated Components

21st Century Themes	_____ Global Awareness __X___Financial, Economic, Business, and Entrepreneurial Literacy _____ Civic Literacy _____ Health literacy
21st Century Skills	_____ Creativity and Innovation _X____ Critical Thinking and Problem Solving __X___ Communication and Collaboration __X__ Information Literacy _____ Media Literacy __X___Life and Career Skills
Interdisciplinary Connections	Language Arts - Math Readers - LA.6-8.ELA-Literacy.W.9; LA.6-8
Integration of Technology	Smart board to present interactive lessons; chrome books and computer lab to create spreadsheets. *NJSLS 8.1 Educational Technology*
Resources	For Teachers: EDM4, all resources, 1.10, 9.1, 9.2, 9.7-9.9; Math readers; Supplemental lessons. For Students: EDM4, all resources; Math readers "A Sense of Art", "Package Design."
Integrated Accommodations and Modifications	Modifications for Special Education/504/At-Risk students: Leveled Math readers "Landscape by Design" and "Pack It Up," EDM Readiness Math Masters, use of additional manipulatives and visual reinforcements Modifications for ELL students: Visuals/translated cards with geometry terms. Illustrate, role play, use of graphic organizers,

	pair with native speakers. Modifications for Gifted students: Write Number Stories, use formulas to complete a spreadsheet, use the distributive property to find dimensions, comparing capacities.

Subject Area: Mathematics	
Grade Level: 6 Unit 3 - Ratios and Proportions	**Brief Summary of Unit: Ratios and Proportional Relationships: Understand ratio concepts and use ratio reasoning to solve problems**

Content/Objective	Standards	Skills – SWBAT	Suggested Activities	Suggested Assessments	Pacing Guide
Understand the concept of ratios • Ratios show relationships or comparisions between quantities • Percentages, fractions, rates and unit rates are forms of ratios • Ratios can be equivalent or inequivalent • Ratios can be reduced to lowest terms • Interpret results from tables and graphs • 100 percent equals one whole • Percentages can represent more than or less than one whole • A percent can represent a value on a number line for a portion of a	6.RP.A.1 6.RP.A.2 6.RP.A.3	• Apply ratio reasoning to convert measurement units and to determine if fractions, rates, unit rates, measurement rates, and percentages are equivalent or inequivalent • Solve for variables that represent unknown quantities • Relate ratios to solve proportions involving a variable. • Analyze information presented in tabular form to solve unknown quantities. • Apply unit rate and examine patterns to interpret quantities presented in a table. • Analyze the relationship between ratios using graphs and tables • Compare and contrast ratios and fractions. • Discover unit rate as a problem solving technique • Using knowledge of 10% to compute discount, sales tax, and tip • Solve proportions or equations to find the missing percent, part, or whole given values · Define what a proper fraction is by its numerator and denominator. · Create a number line and Plot/label rational numbers correctly on a number by	**Math Readers: Group students according to reading level. Students work in groups reading and completing the activities for "On The Road", and "Our New Car". (FEBEL) (IL)(LCS)** **Utilize the "Per-Unit-Rate" method and the "Rate –Table" method to solve rate problems. (CT&PS)** **Use proportions and cross multiplication to model and solve rate problems. (CT&PS)** **Estimate calorie use per day. (HL) (LCS)** **Use nutrition labels to solve rate problems. (HL) (LCS)** **Use playing cards to solve ratio problems. (CT&PS)** **Use proportions to solve percent problems. (CT&PS)** **Calculate the fat content of**	Slate and oral assessment Mental math and daily practice Formative assessment – check-ins and quizzes Open response (math readers) (formative) **Creating a problem/project for peer to solve. Check their work. (CT&PS and CC) (alternative assessment)** **Summative Unit 3 assessment** **Benchmarks:** **EDM middle-of-year assessment**	January and February (6 to 8 weeks) and May (1 week)

model unit • The denominator of the percent is always 100		benchmarking between two whole numbers. · Mentally compare fractions and decimals by benchmarking the rational number (e.g. 5/9 or 4/8) · Convert between forms fractions, decimals and percents by using benchmarking, or mathematical operations. · Utilize mathematical models, such as fraction strips to describe real world situations. · Synthesize the knowledge gained by developing the fraction strips to name, estimate and compare given fractions. · Compare and order rational numbers. · Represent fractions with denominators of 10 and powers of 10 as decimal numbers. · Represent decimal numbers by using a 10 x 10 grid area model. · Explain that a decimal representation of a fraction shows the same proportion but is based on a power of 10 as a denominator · Apply the division method to change fractions to decimals · Model fractions by using the hundredths grid. · Analyze strategies for finding percents where a set of data has more or fewer than 100 items	**food using fractions and percents. (HL) (LCS)** **Explore Golden Rectangles and the Golden ratio. (CT&PS)** **Use the rules for equivalent fractions or cross products to determine whether pairs of ratios for proportions. (CT&PS and CC)** **Create mathematical models (drawings, pictures, etc…) to model situations involving fractions, decimals and/or percents. Have a peer interpret your model. (CT&PS and CC)** **Complete activities in Student math Journals and Study Link Books (CT&PS and CC)**		

Integrated Components

21st Century Themes	_____ Global Awareness _X____Financial, Economic, Business, and Entrepreneurial Literacy _____ Civic Literacy ___X__ Health literacy
21st Century Skills	_____ Creativity and Innovation __X___ Critical Thinking and Problem Solving __X___ Communication and Collaboration __X___ Information Literacy _____ Media Literacy _X____Life and Career Skills
Interdisciplinary Connections	Language Arts: Math Readers - LA.6-8.ELA-Literacy.W.9; WHST.6-8.9

	Health: HPE.2.1.6.B, Life and Career Standards – 9.1.4.E.1, 9.1.4.E.2, 9.1.8.E.7
Integration of Technology	Smart board to present interactive lessons; chrome books and computer lab to research the Golden Ratio and Golden rectangles. *NJSLS 8.1 Educational Technology*
Resources	For Teachers: EDM4, all resources, 8.1-8.12; Math readers; Supplemental lessons. For Students: EDM4, all resources; Math readers "On the Road."
Integrated Accommodations and Modifications	Modifications for Special Education/504/At-Risk students: Leveled Math readers "Our New Car," EDM Readiness Math Masters, use of additional manipulatives and visual reinforcements Modifications for ELL students: Visuals/translated cards with ratios and proportions terms. Illustrate, role play, use of graphic organizers, pair with native speakers. Modifications for Gifted students: Writing an equation from a rate table, use double number lines to solve rate problems, write a ratio number story.

Subject Area: **Mathematics**	
Grade Level: 6 Unit 2 - Statistics and Probability	**Brief Summary of Unit: Statistics and Probability: Develop understanding of statistical variability**

Content/Objective	Standards	Skills – SWBAT	Suggested Activities	Suggested Assessments	Pacing Guide
·Recognize that statistical questions have to contain variability in the data related to the question and is accountable for it in the answer. · Understand that a set of data collected to answer a statistical question has a distribution that is described by its center, spread, and overall shape. · Understand that the measure of central tendency (mean, median and mode) is all averages for a numerical data set and summarizes the values of that set with a single number. · Recognize which measure of central tendency is best used for the given data numerical data can	6.SP.A.1 6.SP.A.2 6.SP.A.3 6.SP.B.4 6.SP.B.5	· Use Synthesis in statistics, by creating a statistical question in which students can collect and analyze data. · Use Analysis of central tendency by examining which measure would best describe a given data distribution. · Use Analysis to summarize data distributions by examining a set of data and being able to report the number of observations, describe the nature of the attribute under investigation, describe the measure of central tendency and relate the choice of measure of center and variability to the shape of the data distribution and the context in which the data was gathered. •construct dot plots, histograms, and box plots. • summarize numerical data by: - reporting the number of observations; -describing the nature of the attribute, how it is being measured and units of measurement; -giving quantitative measures of center and variability - describing overall patterns and/or deviations from the pattern regarding the context in which the data were gathered;	**Math Readers: Group students according to reading level. Students work in groups reading and completing the activities for "Battle of the Bands", "Tonight's Concert", Tornado Chasers", and "Hurricane Hunters". (FEBEL)(IL)(LCS)** **Match dot plots with statements describing data. (CT&PS)** **Present statistical questions for student interpretation, then have students create their own statistical question. (CT&PS)** **Create, read and interpret box plots and find the interquartile range of a data set. (CT&PS)** **Create, read and interpret histograms. (CT&PS)** **Create frequency tables. Use data to create dot and box plots, and histograms. (CT&PS)** **Use frequency table to determine the absolute deviation and the**	Slate and oral assessment Mental math and daily practice Formative assessment – check-ins and quizzes Open response (math readers) (formative) **Creating a problem/project for peer to solve. Check their work. (CT&PS and CC) (alternative assessment)** **Benchmarks: Summative Unit 2 progress check**	September and October (6 to 8 weeks) And June (1 week)

be displayed in multiple ways. • summaries of numerical data vary based on their contexts. • overall patterns of numerical data can vary. • some patters in numerical data can have striking deviations.			**mean absolute deviation. (CT&PS)** **Partnership activity - Develop a statistical project. (CC)** **Complete activities in Student math Journals and Study Link Books (CT&PS and CC)**		

Integrated Components

21st Century Themes	_____ Global Awareness ___X__Financial, Economic, Business, and Entrepreneurial Literacy _____ Civic Literacy _____ Health literacy
21st Century Skills	_____ Creativity and Innovation __X___ Critical Thinking and Problem Solving __X___ Communication and Collaboration __X___ Information Literacy _____ Media Literacy _X____Life and Career Skills
Interdisciplinary Connections	Language Arts - Math Readers - LA.6-8.ELA-Literacy.W.9; LA.6-8.ELA-Literacy.WHST.6-8.9 Life and Career Skills – 9.1.8.E.3, 9.1.8.E.8
Integration of Technology	Smart board to present interactive lessons; chrome books and computer lab to research statistical questions and create graphs. *NJSLS 8.1 Educational Technology*
Resources	For Teachers: EDM4, all resources, 1.1-1.9; Math readers; Supplemental lessons. For Students: EDM4, all resources; Math readers “Hurricane Hunters”, “Tonight’s Concert.”
Integrated Accommodations and Modifications	Modifications for Special Education/504/At-Risk students: Leveled Math readers “Battle of the Bands” and “Tornado Chasers”, EDM Readiness Math Masters, use of additional manipulatives and visual reinforcements Modifications for ELL students: Visuals/translated cards with statistics and probability terms. Illustrate, role play, use of graphic organizers, pair with native speakers. Modifications for Gifted students: Find mistakes in Dot plots; Create a data set given the Mean; Creating Persuasive graphs; make a Frequency-Density Histogram; using data to design a keyboard.

Subject Area: Mathematics	
Grade Level: 6 Unit 1 - The Number System	**Brief Summary of Unit: The Number System:** **Apply and extend previous understandings of multiplication and division to divide fractions by fractions; compute fluently with multi-digit numbers and find common factors and multiples; apply and extend previous understandings of numbers to the system of rational numbers.**

Content/Objective	Standards	Skills – SWBAT	Suggested Activities	Suggested Assessments	Pacing Guide
•Use benchmarks to estimate by checking the reasonableness of results of operations with fractions. · Construct and analyze strategies to model sums, differences, products, and quotients including the use of areas fraction strips and number lines. · Use estimates and exact solutions to make mathematics decisions · Use knowledge of fractions and equivalence of fractions to develop algorithms for adding, subtracting, multiplying and dividing fractions. · Support with reason when addition, subtraction,	**6.NS.A.1** **6.NS.B.2** **6.NS.B.3** **6.NS.B.4** **6.NS.C.5** **6.NS.C.6** **6.NS.C.7** **6.NS.C.8**	• compute and interpret quotients of fractions. • solve word problems involving division of fractions • fluently add, subtract, multiply and divide multi-digit decimals using the standard algorithm. • find the greatest common factor of two whole numbers less than or equal to 100 • find the least common multiple of two whole numbers less than or equal to 12. • use the distributive property to express a sum of two whole numbers 1-100 with a common factor as a multiple of the sum of two whole numbers with no common factor. For example, express 36 + 8 as 4(9 + 2). use positive and negative numbers to represent quantities in real-world contexts. · explain the meaning of 0 in situations using positive and negative numbers. · extend number-line diagrams and coordinate axes to represent the four quadrants of a coordinate plane (eg. Negative coordinates). · find and position integers and other rational numbers on a horizontal or vertical number line diagram.	**Math Readers: Group students according to reading level.** **Students work in groups reading and completing the activities for "What Did I Eat", and "How Do they Make That". (FEBEL)(IL)(LCS)** **Complete activities in Student math Journals and Study Link Books (CT&PS and CC)** **Modeling addition, subtraction, multiplication and division of fractions. (CT&PS)** **Estimate and calculate total cost of real world items. (CT&PS)** **Solve fraction number stories and model.** **Draw a carnival map my plotting points and labeling attractions.** **Label points and find the distance on a number line of positive and negative numbers.** **Using numbers plotted on a coordinate grid, find the distance**	Slate and oral assessment Mental math and daily practice Formative assessment – check-ins and quizzes Open response (math readers) (formative) **Creating a problem/project for peer to solve. Check their work. (CT&PS and CC)** **Completed Math Poem (alternative assessment)** **Summative Unit 1 Assessment** **Benchmarks:** **EDM Beginning-of-year pre-assessment**	October and November (6-8 weeks) And May (1 week)

multiplication or division is appropriate operations to solve a problem by investigating real world scenarios. · Illustrate the understanding of fractions by performing the appropriate operation on fractions. · Use comprehension of positive and negative numbers by describing integers and rational numbers as quantities having opposite directions or values. · Use application of integers and rational numbers, by using positive and negative numbers to represent quantities in real-world contexts. · Use comprehension of integers and rational numbers by plotting points on the Cartesian Coordinate System · Use benchmarking and other strategies by having students place rational numbers in ascending or		· find and position pairs of integers and other rational numbers on a coordinate plane. · interpret statements of inequality as statements about the relative position of two numbers on a number line diagram. For example, interpret –3 > –7 as a statement that –3 is located to the right of –7 on a number line oriented from left to right. · write, interpret, and explain statements of order for rational numbers in real-world contexts. For example, write –3 o C > –7 o C to express the fact that –3 o C is warmer than –7 o C. · interpret absolute value as magnitude for a positive or negative quantity in a real-world situation. For example, for an account balance of –30 dollars, write |–30| = 30 to describe the size of the debt in dollars. · distinguish comparisons of absolute value from statements about order. For example, recognize that an account balance less than –30 dollars represents a debt greater than 30 dollars. · solve real-world and mathematical problems by graphing points in all four quadrants of the coordinate plane. · find distances between points with the same first coordinate or the same second coordinate, using coordinates and absolute value.	**of a taxi ride from various attractions in a city.** **Summarize, by drawing a diagram, the relationship among the 6 sets of numbers (real numbers, rational and irrational, integers, whole and counting).** **Create a math poem.** **Play online EDM and Illuminations games related to skill being learned.** **Create GCF tables.** **Students create a list of 10 positive and negative numbers and have a peer put.** **Pi Day competition – Making the longest pi chain. (CT&PS)(CC)**		

descending order. · describing a positive or negative number as a magnitude for a positive or negative quantity in a real world situation. · Apply absolute value by determining the distance between two vertical or horizontal coordinate points. · Develop strategies for finding factors and multiples and least common multiples and greatest common factors					

Integrated Components

21st Century Themes	_____ Global Awareness ___X__Financial, Economic, Business, and Entrepreneurial Literacy _____ Civic Literacy _____ Health literacy
21st Century Skills	_____ Creativity and Innovation __X___ Critical Thinking and Problem Solving __X___ Communication and Collaboration __X___ Information Literacy _____ Media Literacy _X____Life and Career Skills
Interdisciplinary Connections	Language Arts - Math Readers - LA.6-8.ELA-Literacy.W.9; LA.6-8.ELA-Literacy
Integration of Technology	Smart board to present interactive lessons; chrome books and computer lab to create math poems, visit Illuminations and EDM. *NJSLS 8.1 Educational Technology*
Resources	For Teachers: EDM4, all resources, 2.3-2.8,4.3-4.8, 5.4-5.6, 6.1–6.6; Math readers; Supplemental lessons. For Students: EDM4, all resources; Math readers “What Did I Eat?”
Integrated Accommodations and Modifications	Modifications for Special Education/504/At-Risk students: Leveled Math readers “How Do They Make That?”, EDM Readiness Math Masters, use of additional manipulatives and visual reinforcements Modifications for ELL students: Illustrate, role play, model, pair with native speakers. Modifications for Gifted students: play paper pool on paper and on Illuminations.com., create absolute value riddles, simplify

	complex fractions, read descriptions of triangles and quadrangles and plot on a 4-quadrant coordinate grid, supplemental activities.