Integrated Math I

Unit Title: **Integrated Math I Unit 1: Number Sense**

Stage 1: Desired Results

Standards & Indicators:

New Jersey Student Learning Standards

N-RN.A.2 B. Use properties of rational and irrational numbers.
N-Q.A . Reason quantitatively and use units to solve problems.
A-SSE.A A. Interpret the structure of expressions.
A-CED.A Create equations that describe numbers or relationships.

Dynamic Learning Maps- Essential Elements

M.EE.N-CN.2.a Use the commutative, associative, and distributive properties to add, subtract, and multiply whole numbers.
M.EE.N-CN.2.b Solve real-world problems involving addition and subtraction of decimals and whole numbers, using models when needed.
M.EE.N-CN.2.c Solve real-world problems involving multiplication of decimals and whole numbers, using models when needed.
EE.A-SSE.1. Identify an algebraic expression involving one arithmetic operation to represent a real-world problem.

Integration of Climate Change:

- A.CED.A.1 Create equations and inequalities in one variable and use them to solve problems. Include equations arising from linear and quadratic functions, and simple rational and exponential functions.
  Climate Change Example: Students may create equations and/or inequalities to represent the economic impact of climate change.
- N.Q.A.1 Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays.
  Climate Change Example: Students may use units to guide the solution of multi-step problems about how variations in the flow of energy into and out of the Earth's systems result in climate change. Note: Changes in climate are limited to changes in surface temperatures, precipitation patterns, glacial ice volumes, sea levels, and biosphere distribution.
- N.Q.A.2 Define appropriate quantities for the purpose of descriptive modeling.
  Climate Change Example: Students may define appropriate quantities for a descriptive model of how variations in the flow of energy into and out of Earth's systems result in climate change. Note: changes in climate are limited to changes in surface temperatures, precipitation patterns, glacial ice volumes, sea levels, and biosphere distribution.

Career Readiness, Life Literacies and Key Skills

Standard	Performance Expectations	Core Ideas
9.4.12.CI.1	Demonstrate the ability to reflect, analyze, and use creative skills and ideas (e.g., 1.1.12 prof.CR3a).	With a growth mindset, failure is an important part of success.

Central Idea/Enduring Understanding:	Essential/Guiding Question:
• Real-life situations use different forms of real numbers.	• What information and strategies would you use to solve a multi-step word problem?

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• Whole numbers, decimals, fractions and percentages are used in real-life situations. • Data can be obtained and represented in different ways.	• Where do we see numerals in the real world? • How do I recognize what strategy to use for a specific problem? • How are whole numbers, decimals and fractions used in real-life situations? • How can data be collected?
Content: Whole numbers • Decimals • Fractions • Calculating numerical expression • Data representation • Data interpretation • Vocabulary	**Skills(Objectives):** Identify and compare whole numbers, decimals and fractions. • Identify the place value of a digit in a number (whole numbers and decimals.) • Round whole numbers to specific places. • Find and describe patterns. • Rewrite fractions in simplest form. • Compare numbers and units using ratios. • Convert between fractions, decimals, and percents. • Solve numerical expressions involving multiple operations. • Identify mean, median, mode and range of a set of numbers. • Create, read, interpret (pictograph, bar, step, line, and circle). • Construct the most appropriate graph for a given set of data. • Demonstrate correct usage of vocabulary.
Interdisciplinary Connections: Interdisciplinary connections are integrated in each unit with connections to the mathematical practices. 1. Make sense of problems and persevere in solving them 2. Reason abstractly and quantitatively 3. Construct viable arguments and critique the reasoning of others 4. Model with mathematics 5. Use appropriate tools strategically 6. Attend to precision 7. Look for and make use of structure 8. Look for and express regularity in repeated reasoning	

Stage 2: Assessment Evidence

Performance Task(s): Performance Task: • You are planning the food for a party with your friends. You need to determine what food to serve, find recipes and double at least one recipe, and create a grocery list. • To determine which food you are going to serve, survey your friends to see	**Other Evidence:** Rubric for Performance Task Daily Do Now Activities Exit Slips Teacher Created Materials Class Participation Online Assessments Class Discussions Structured Observations

what food choices they would like. From the survey of your friends, create a grocery list for your menu. Find recipes of an items that needs to be prepared. Double at least one recipe. ● From your food selections and recipes create a grocery list of the food items that you will need for your menu including the quantity needed. ● Present the menu, recipe, and grocery list to your class and teacher.	

Stage 3: Learning Plan

Learning Opportunities/Strategies:	**Resources:**
Money ● Teacher will review addition and subtraction, decimals. Teacher will introduce and model the process for adding and subtracting various amounts of money. Difficulty of computation will be based upon students' levels. ● Students will be introduced to the different coins and their corresponding values. Teacher will model how to add amounts of coins. Teacher will demonstrate how to write amounts of money using symbols and decimal points. ● Find the value of any collection of coins and bills. Write amounts less than a dollar using the ¢ symbol and write larger amounts in decimal notation using the $ symbol. ● Students will be given an array of envelopes with different amounts of money inside. Students will need to identify coins, and dollar amounts. Students will then add the total amount of money inside each envelope. ● Students will use authentic sample menus to locate prices of various items. ● Students will identify prices and indicate the total amount. ● Using authentic resources (menus, store catalogs, internet resources),	Google Classroom Teacher created materials kahoot.com nearpod.com menu math by remedia market math by remedia teacherspaytechers.com create a graph http://www.mathplayground.com/mathatthemall2.html www.brainpop.com www.studyisland.com http://www.mathgoodies.com/lessons/toc_vol8.html Inclusive Math Class

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students will identify items of interest and calculate amounts of money. <u>Greater Than, Less Than, Equal</u> ● Teacher will introduce the symbols for greater than, less than, equal to. ● Teacher will introduce tools (calculator, number grid) to utilize for reinforcement of greater than, less than. ● Students will work in partners, groups to identify greater than, less than, or equal using a sampling of numbers, including amounts of money. ● Utilizing partnerships, students will compare individual money envelopes to identify greater than, less than, or an equal amount. <u>Place Value</u> ● Teacher will review the concept of place value with the student. ● Watch lessons on place value on www.studyisland.com. ● Play games and then take assessment on Study Island. <u>Fractions</u> ● Watch Fraction videos on www.BrainPop.com. ● Using manipulatives, students will identify whole numbers and various fractions. Introduce the concept of fractions and provide examples of fractions, using examples of pizzas, pies, etc… Students will explore fractions by creating pizzas with different toppings given task cards with various directions. Students will complete activities to determine individual mastery levels. ● In partners, students will identify fractions and compare fractions to determine greater than, less than, or equal. ● Provide a visual presentation with measuring cups and measuring	

spoons to compare common fractions, using greater than and less than statements. Provide students with samples of what doubling a recipe means using fractions.Students will identify one recipe from a Culinary class and locate the fractions used in the recipe. Students will then need to double the recipe by adding the fractions. ● Students will investigate how to use fractions in real world applications (recipes, measuring length, height, time, etc..) <u>Percentages</u> ● Teachers will introduce the concept of percentages. Teacher will model the relationship between fractions and percentages. ● Students will explore and identify where percentages are used (shopping, sales, completion of tasks, test results) ● Teacher will model how to calculate percentages (with and without a calculator) of sale items. Students will use a basic calculator including shortcut keys for fractions, decimals and percents. ● Working in pairs, students find percent change between "then and now" costs of 2 items listed on each card. 16 cards in total. Students will compare the percent increases to determine which item's cost increased the most over the years. Students compare prices of food, cars, homes, salaries and other items from what they cost in past decades to what they cost today. Prices are historically accurate, which provides discussion about inflation and the cost of living. ● Students shop around your classroom finding sales prices of 20 items. Included are: editable sales tags and two activity sheets. The first activity	

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asks students to find sale prices of items given an original price and a percent discount that the teacher has set. The second activity asks students to find discounts and final prices when an additional conditional coupon is applied towards items over $100.

- Practice percentages and finding the best deal while shopping at a virtual mall. (decimal operations, and percents, and percent of a number) (http://www.mathplayground.com/mathatthemall2.html)
- Using catalogues, menus, internet resources, students will practice finding sale prices using percentages of popular items and determining the final cost. Students will compare original price and sale price and calculate the difference.

Graphs

- Create 2 different graphs online using the Create a Graph Website.

Mean,Median, Mode, Range

- Complete lessons on mean, median, mode, and range. (http://www.mathgoodies.com/lessons/toc_vol8.html)

Differentiation *Please note: Teachers who have students with 504 plans that require curricular accommodations are to refer to Struggling and/or Special Needs Section for differentiation

High-Achieving Students	On Grade Level Students	Struggling Students	Special Needs/ELL
Varying sets of reading social stories to focus on specific behaviors (either chosen by the teacher or student). A personalized course packet with enrichment materials. An adaptive assessment that gets harder depending on how a student is performing.	Course packet with individualized materials. An adaptive assessment that gets harder depending on how a student is performing. One-on-one coaching with a student, designed around his/her	Varying sets of reading social stories to focus on specific behaviors (either chosen by the teacher or student). A personalized course individualized packet. An adaptive assessment that	Any student requiring further accommodations and/or modifications will have them individually listed in their 504 Plan or IEP. These might include, but are not limited to: breaking assignments into smaller tasks, giving directions through several channels (auditory, visual, kinesthetic, model), and/or small group instruction for reading/writing

One-on-one coaching with a student, designed around his/her specific for higher thinking challenges. Students grouped into small groups, which are designed around their strengths and weaknesses so that they can assist and challenge each other	specific for higher thinking challenges. Students grouped into small groups, which are designed around their strengths and weaknesses so that they can assist and challenge each other. A personalized course packet with individualized remediation or enrichment materials.	gets easier or harder depending on how a student is performing. One-on-one coaching with a student, designed around his/her specific challenges. Students grouped into small groups, which are designed around their strengths and weaknesses so that they can tutor each other. Allow extra time on assessments Provide study guides Weekly conference to set short term goals	ELL supports should include, but are not limited to, the following:: Extended time Provide visual aids Repeated directions Differentiate based on proficiency Provide word banks Allow for translators, dictionaries Use of calculator Extended time Small group instruction Use of manipulatives Repeated instruction Task broken down into smaller parts Provide frequent reviews of current concepts and information taught Assist with organizing classroom materials

Unit Title: Integrated Math I Unit 2: Expressions, Equations and Inequalities

Stage 1: Desired Results

Standards & Indicators:

New Jersey Student Learning Standards

N-RN.A.2 B. Use properties of rational and irrational numbers.
N-Q.A . Reason quantitatively and use units to solve problems.
A-SSE.A A. Interpret the structure of expressions
A-CED.A Create equations that describe numbers or relationships
A-REI.B Solve equations and inequalities in one variable

Dynamic Learning Maps- Essential Elements

M.EE.N-CN.2.a Use the commutative, associative, and distributive properties to add, subtract, and multiply whole numbers
M.EE.N-CN.2.b Solve real-world problems involving addition and subtraction of decimals and whole numbers, using models when needed
M.EE.N-CN.2.c Solve real-world problems involving multiplication of decimals and whole numbers, using models when needed.

Integration of Climate Change:

- A.CED.A.1 Create equations and inequalities in one variable and use them to solve problems. Include equations arising from linear and quadratic functions, and simple rational and exponential

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functions.
Climate Change Example: Students may create equations and/or inequalities to represent the economic impact of climate change.

- N.Q.A.1 Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays.
  Climate Change Example: Students may use units to guide the solution of multi-step problems about how variations in the flow of energy into and out of the Earth's systems result in climate change. Note: Changes in climate are limited to changes in surface temperatures, precipitation patterns, glacial ice volumes, sea levels, and biosphere distribution.
- N.Q.A.2 Define appropriate quantities for the purpose of descriptive modeling.
  Climate Change Example: Students may define appropriate quantities for a descriptive model of how variations in the flow of energy into and out of Earth's systems result in climate change. Note: changes in climate are limited to changes in surface temperatures, precipitation patterns, glacial ice volumes, sea levels, and biosphere distribution.

Career Readiness, Life Literacies and Key Skills

Standard	Performance Expectations	Core Ideas
9.4.12.CI.1	Demonstrate the ability to reflect, analyze, and use creative skills and ideas (e.g., 1.1.12 prof.CR3a).	With a growth mindset, failure is an important part of success.

Central Idea/Enduring Understanding:

- Real-world situations can be represented efficiently in Algebra by using symbols and operations. These symbols may represent unknown quantities which may or may not vary.
- Real-world scenarios can be transformed into equations so that solutions can be found.
- Situations in life are often represented as problems with more than one solution.
- Real-life mathematics requires you to convert information into a more usable form.
- Algebraic relationships can be represented graphically, numerically, symbolically, or verbally.
- Solutions to equations and inequalities can be interpreted according to the given situation.

Essential/Guiding Question:

- How is it useful to represent the same mathematical idea in different ways?
- How are symbols and operations used in real-world situations?
- What is the most practical use of mathematical processes to solve problems?
- How can equations be used to-solve real-world situations?
- How do inequalities help us solve problems?
- How can you use an inequality to describe a real-life situation?
- How do number conversions help us solve problems?
- How can change be best represented mathematically?
- How can the average rate of change be determined graphically, numerically, symbolically, or verbally?
- How do equations and inequalities help us solve problems?

Content:

- Number classification
- Equations
- Formulas

Skills(Objectives):

Use real numbers.

- Write algebraic expressions from words.
- Rewrite and use equations and formulas.

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• Order of Operations • Inequalities • Fractions • Decimbals • Linear functions • Slope • Equations	• Use order of operations to evaluate expressions. • Solve equations. • Use number lines. • Write and identify solutions of inequalities. • Convert fractions to decimals. • Convert decimals to fractions. • Order sets of numbers. • Describe how changing the slope and/or y-intercept affect the graph of a line. • Write linear equations in slope-intercept form. • Intercept slope as a rate of change. • Write, graph, and identify solutions of equations and inequalities.

Interdisciplinary Connections:

Interdisciplinary connections are integrated in each unit with connections to the mathematical practices.

1. Make sense of problems and persevere in solving them
2. Reason abstractly and quantitatively
3. Construct viable arguments and critique the reasoning of others
4. Model with mathematics
5. Use appropriate tools strategically
6. Attend to precision
7. Look for and make use of structure
8. Look for and express regularity in repeated reasoning

Stage 2: Assessment Evidence

Performance Task(s): Task 1 Fundraiser • Your school is having a school wide fair. Your club has been assigned to rent tables for the fair, sell admission tickets, and sell hot dogs and juice. All of the profits will go to your club. As the Treasurer of your club, you need to set a fundraising goal, complete the chart and questions, and support your response to the open-ended question. Compare last year's expenses and income to help you determine what you need this year. • What is your fundraising goal? • Use 50 for the number of tables rented for this year's fair. The school is providing the tables so there is no cost to the club for the chairs. Find the profit P from renting yard-sale tables. Profit=Income-Cost (Equations may be provided).	**Other Evidence:** Rubric to assess task Daily Do Now Activities Exit Slips Teacher Created Materials Class Participation Online Assessments Class Discussions Projects Structured Observations

● Suppose you make the tickets and you sell the same number of tickets as last year. Find the price T to charge for each ticket to make the planned profit. ● You calculate that you will have to pay an average of $0.35 per hot dog, bun, and toppings. If you sell the same amount as last year, how much will this cost in all? ● Juice boxes cost you $0.25 each. You sell 200 juice boxes. How much will they cost in all? ● How much h should you charge for each hot dog? ● How much, j, should you charge for each juice box? ● You could sell a hot dog and juice box only as a combination. If you do, how much c, should you charge for each "combo"? ● Did you meet your fundraising goals? Explain why or why not. Do your goals need to be adjusted? ● How would you improve the treasurer's chart? Provide data to students of tables last year 45 ($35.00 a table), 320 tickets sold profit $800, 200 hot dogs sold profit $280.00, 200 juice boxes sold profit $100.00. <u>Task 2:</u> Pay cell-phone bill after selecting a cell phone provider. ● Do a price comparison of two cell phone providers based on the number of text messages and minutes that are used to determine the cost of each plan per month. ● Keep a log of cumulative number of calling minutes and text messages on a spreadsheet for 10 days and make a prediction of the total number of minutes and text messages used for a 30 day period (month). Support prediction with an algebraic model. ● Present your spreadsheet and cell phone company choice explaining	

which is the best and most cost effective and why.	

Stage 3: Learning Plan

Learning Opportunities/Strategies:	**Resources:**
Converting between Decimals and Fractions ● Students will review and explore http://ww.IXL.com/math/algebra Algebraic Expressions: ● Teacher will introduce key vocabulary terms. Teacher will demonstrate the process for balancing equations ● Students will use the SmartBoard interactive notebook to identify key parts of algebraic expressions and to balance equations. There will be a balance, and students will bring together similar shapes on each side to create balance. ● Using manipulatives, teachers and students will explore balancing equations. ● Students will use real life examples, such as going to a fast food place and ordering different combinations of food items. ● Students will use the SmartBoard interactive notebook to identify key parts of an algebraic expression, write algebraic expressions from words, rewrite and use literal equations and formulas. ● Teacher will introduce and use the order of operations to evaluate expressions. ● Allow students to practice while giving them the ability to self-check, thus ensuring students are practicing the correct procedure. ● Teacher will model solving one step equations with addition and subtraction http://www.crctlessons.com/one-step-equations-with-addition.html ● Teacher will introduce and model how to use a calculator to find the value of an expression. Students will work in	Google Classroom Teacher created materials kahoot.com nearpod.com menu math by remedia market math by remedia teacherspaytechers.com https://www.khanacademy.org/math/algebra/one-variable-linear-equations/alg1-intro-equations/v/variables-expressions-and-equations www.brainpop.com www.studyisland.com http://www.shodor.org/interactivate/activities/SlopeSliderhttp://www.crctlessons.com/one-step-equations-with-addition.html Inclusive Math Class

partners to solve equations and compare the answers. ● http://www.khanacademy.org/math/algebra/solving-linear-equations/v/variables-expressions-and-equations ● http://www.crctlessions.com/one-step-equations-with-addition.html <u>Graphing Equations</u> ● Teacher will introduce key vocabulary terms: coordinate planes, ordered pairs, parallel, perpendicular, quadrants, slope,x,y,) ● Teacher will review a graph and students will practice graphing the ordered pairs. ● Understanding slope - http://education.ti.com/calculators/timath/US/Activites/Detail?sa=5022&id=11350 ● Students will use http://www.shodor.org/interactivate/activities/SlopeSlider/ and answer questions related to the coordinates and parts of the graph. Which number represents the slope of the line? Which number represents the y-intercept of the line?Explore slope for a few minutes. What do you notice about all lines that have negative slope? What do you notice about all lines that have positive slopes? What action occurs when you change the slope of the line? What action occurs when you change the y-intercept of the line? ● Students will be given a graph and 8 ordered pairs. They will mark the x axis and the y axis, then graph the ordered pairs. ● Given a set of points, students will plot making a picture. ● Walk around graphing scavenger hunt. Teacher will Place 10 cards on the wall around the room. Students pick any card to begin with. To prevent students from all starting together, students will number off. They should	

graph the system from the bottom of the page. Upon completion of graphing on their own paper, students look around the room for a graph that matches their own. Then they graph the next problem. They should continue until they return to the card they started with. Teacher should have a set of graph paper that is laminated for students to use with this activity. The lamination allows students to write on it with a dry erase marker. Give each student 2 markers, and have them graph each equation with a different color. They walk around with their graph to find the match. Then they come back to their seat and write the matching number and sketch the graph on the answer sheet. Mistakes on the dry erase boards are easier to correct than pencil and paper.	

Differentiation *Please note: Teachers who have students with 504 plans that require curricular accommodations are to refer to Struggling and/or Special Needs Section for differentiation

High-Achieving Students	On Grade Level Students	Struggling Students	Special Needs/ELL
Varying sets of reading social stories to focus on specific behaviors (either chosen by the teacher or student). A personalized course packet with enrichment materials. An adaptive assessment that gets harder depending on how a student is performing. One-on-one coaching with a student, designed around his/her specific for higher thinking challenges. Students grouped into small groups, which are designed around their	Course packet with individualized materials. An adaptive assessment that gets harder depending on how a student is performing. One-on-one coaching with a student, designed around his/her specific for higher thinking challenges. Students grouped into small groups, which are designed around their strengths and weaknesses so that they can assist and	An adaptive assessment that gets easier or harder depending on how a student is performing. One-on-one coaching with a student, designed around his/her specific challenges. Students grouped into small groups, which are designed around their strengths and weaknesses so that they can tutor each other. Allow extra time on assessments	Any student requiring further accommodations and/or modifications will have them individually listed in their 504 Plan or IEP. These might include, but are not limited to: breaking assignments into smaller tasks, giving directions through several channels (auditory, visual, kinesthetic, model), and/or small group instruction for reading/writing ELL supports should include, but are not limited to, the following:: Extended time Provide visual aids Repeated directions Differentiate based on proficiency Provide word banks Allow for translators, dictionaries

strengths and weaknesses so that they can assist and challenge each other.	challenge each other. A personalized course packet with individualized remediation or enrichment materials. An adaptive assessment that gets easier or harder depending on how a student is performing. One-on-one coaching with a student, designed around his/her specific challenges. Students grouped into small groups, which are designed around their strengths and weaknesses so that they can tutor each other.	Provide study guides Weekly conf	Vary grouping arrangements: small, Increase adult support on activities. Weekly conference with students to go over progress and concerns. large, and individual. Technology to assist students with a language barrier or students that struggle with handwriting. Assist with organizing classroom materials. Provide frequent reviews of current concepts and information taught use of calculator extended time small group instruction use of manipulatives repeated instruction task broken down into smaller parts Provide frequent reviews of current concepts and information taught Assist with organizing classroom materials.

Unit Title: Integrated Math I Unit 3: Ratios and Proportional Relationships

Stage 1: Desired Results

Standards & Indicators:

New Jersey Student Learning Standards

N-RN.A.2 B. Use properties of rational and irrational numbers.
N-Q.A . Reason quantitatively and use units to solve problems.
A-SSE.A A. Interpret the structure of expressions
F-BF.2 Determine an arithmetic sequence with whole numbers when provided a recursive rule.
F-IF.1-3 Use the concept of function to solve problems.

Dynamic Learning Maps- Essential Elements

A-SSE.4 Determine the successive term in a geometric sequence given the common ratio.
EE.N-CN.2.b. Solve real-world problems involving addition and subtraction of decimals, using models when needed.
EE.N-CN.2.c. Solve real-world problems involving multiplication of decimals and whole numbers, using models when needed.

Integration of Climate Change:

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- N.Q.A.1 Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays.
  Climate Change Example: Students may use units to guide the solution of multi-step problems about how variations in the flow of energy into and out of the Earth's systems result in climate change. Note: Changes in climate are limited to changes in surface temperatures, precipitation patterns, glacial ice volumes, sea levels, and biosphere distribution.
- N.Q.A.2 Define appropriate quantities for the purpose of descriptive modeling.
  Climate Change Example: Students may define appropriate quantities for a descriptive model of how variations in the flow of energy into and out of Earth's systems result in climate change. Note: changes in climate are limited to changes in surface temperatures, precipitation patterns, glacial ice volumes, sea levels, and biosphere distribution.
- F.IF.A.2 Use function notation, evaluate functions for inputs in their domains, and interpret statements that use function notation in terms of a context.
  Climate Change Example: Students may use function notation to determine the amount of carbon dioxide produced by burning a given number of molecules of ethane (gasoline), m, where c(m) is the number of molecules of carbon dioxide.

Career Readiness, Life Literacies and Key Skills

Standard	Performance Expectations	Core Ideas
9.4.12.CI.1	Demonstrate the ability to reflect, analyze, and use creative skills and ideas (e.g., 1.1.12 prof.CR3a).	With a growth mindset, failure is an important part of success.

Central Idea/Enduring Understanding:

- Real life situations utilize whole numbers, decimals and fractions in various methods.
- Patterns can assist in solving real world problems.

Essential/Guiding Question:

- How are whole numbers, decimals, and fractions used in real-life situations?
- How can you find and use patterns to model real-world situations?
- What pattern is being used in the function table?
- How can you use ratios in real life situations?

Content:

Decimals

- Tenths
- Hundredths
- Comparing Decimals
- Functions
- Function Table
- Patterns
- Ratios

Skills(Objectives):

Identify and compare whole numbers, decimals, and fractions

- Identify place value of a digit in a number
- Round whole number to specific places
- Find and describe number patterns
- Compare numbers and units using ratios
- Use patterns to complete function tables
- Organize data into tables
- Define a ratio
- Apply ratios to real life situations

Interdisciplinary Connections:

Interdisciplinary connections are integrated in each unit with connections to the mathematical practices.

1. Make sense of problems and persevere in solving them
2. Reason abstractly and quantitatively
3. Construct viable arguments and critique the reasoning of others
4. Model with mathematics

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5. Use appropriate tools strategically
6. Attend to precision
7. Look for and make use of structure
8. Look for and express regularity in repeated reasoning

Stage 2: Assessment Evidence

Performance Task(s):

Task 1: Decimals

- Decimals: Coupons: Students will complete and end of the unit assignment by shopping off a supermarket list and looking to find the best prices. Students will use coupon fliers to get the best coupon. Students will clip the coupon and attach it to their list. Students will add their groceries before the coupons are used and after to see the total savings.

Task 2: Functions and Ratios

- Functions and Ratios: Students will use orders from a fast food restaurant to create ratios. Students will be given an order and will be told to create a ratio based on the picture. For instance, the order might be five burgers and three fries. The task might be to write the ratio of fries to burgers. Students can also work on determining the cost of just one item in a package. For example, a pack of twelve pencils. They will have to divide to find the price of just one pencil. They can then use the unit rate of items to compare various prices from stores.

Other Evidence:

Daily Do Now Activities
Exit Slips
Teacher Created Materials
Class Participation
Online Assessments
Class Discussions
Projects
Structured Observations
Budgeting Project

Stage 3: Learning Plan

Learning Opportunities/Strategies:

Decimals:

- Teachers will introduce place value in relation to the decimal. Students will connect prior knowledge of using decimals when identifying money amounts.
- Students will use the knowledge of place value to compare decimals.

Resources:

Google Classroom
Teacher created materials
kahoot.com
nearpod.com
Online sites
www.teacherpayteachers.com
www.Edhelper.com
www.kahoot.com

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Connecting prior knowledge, students will review greater than, less than and equal. ● Teacher will model addition and subtraction using decimals. Students will compute addition and subtraction of decimals by lining up the decimal point. ● Students will use calculators to do operations with decimals. Functions and Ratios: ● Students will follow function rules to complete tables ● Students will represent visuals as a ratio in three ways: using a colon, a fraction, or the word “to.” ● Students will use unit rates to compare prices of items in stores.	www.cashvilleKidz videos www.practicemoneyskills.com Inclusive Math Class

Differentiation *Please note: Teachers who have students with 504 plans that require curricular accommodations are to refer to Struggling and/or Special Needs Section for differentiation.

High-Achieving Students	On Grade Level Students	Struggling Students	Special Needs/ELL
Varying sets of reading social stories to focus on specific behaviors (either chosen by the teacher or student). A personalized course packet with enrichment materials. An adaptive assessment that gets harder depending on how a student is performing. One-on-one coaching with a student, designed around his/her specific for higher thinking challenges. Students grouped into small groups, which are designed around their strengths and weaknesses so that	Course packet with individualized materials. An adaptive assessment that gets harder depending on how a student is performing. One-on-one coaching with a student, designed around his/her specific for higher thinking challenges. Students grouped into small groups, which are designed around their strengths and weaknesses so that they can assist and challenge each other.	Varying sets of reading social stories to focus on specific behaviors (either chosen by the teacher or student). A personalized course individualized packet. An adaptive assessment that gets easier or harder depending on how a student is performing. One-on-one coaching with a student, designed around his/her specific challenges. Students grouped into small groups,	Any student requiring further accommodations and/or modifications will have them individually listed in their 504 Plan or IEP. These might include, but are not limited to: breaking assignments into smaller tasks, giving directions through several channels (auditory, visual, kinesthetic, model), and/or small group instruction for reading/writing ELL supports should include, but are not limited to, the following:: Extended time Provide visual aids Repeated directions Differentiate based on proficiency Provide word banks Allow for translators, dictionaries Increase adult support on activities.

they can assist and challenge each other.	A personalized course packet with individualized remediation or enrichment materials. An adaptive assessment that gets easier or harder depending on how a student is performing. One-on-one coaching with a student, designed around his/her specific challenges. Students grouped into small groups, which are designed around their strengths and weaknesses so that they can tutor each other.	which are designed around their strengths and weaknesses so that they can tutor each other. Allow extra time on assessments Provide study guides. Weekly conference to set short term goals.	Weekly conference with students to go over progress and concerns. Vary grouping arrangements: small, large, and individual. Technology to assist students with a language barrier or students that struggle with handwriting. Assist with organizing classroom materials. Provide frequent reviews of current concepts and information use of calculator extended time small group instruction use of manipulatives repeated instruction task broken down into smaller parts. Provide frequent reviews of current concepts and information taught. Assist with organizing classroom materials.

Pacing Guide

Course Name	Resource	Standards
MP 1		
Unit 1 Number Sense (18 days)	**Chapters:** Money Greater Than, Less Than, Equal Place Value Fractions Percentage Graphs Mean Median Mode **Unit Assessment: Party Planning** Scenario Task (3 days)	**New Jersey Student Learning Standards** N-RN.A.2 B. N-Q.A . A-SSE.A A. A-CED.A **Dynamic Learning Maps-Essential Elements** M.EE.N-CN.2.a. M.EE.N-CN.2.b M.EE.N-CN.2.c EE.A-SSE.1.

Integrated Math I

Unit 2 Expressions, Equations and Inequalities (18 days)	**Chapters:** Converting between Decimals and Fractions Algebraic Expressions: Graphing Equations **Unit Assessment:** Fundraiser Project (3 days)	**New Jersey Student Learning Standards** N-RN.A.2 B.. N-Q.A . A-SSE.A A. A-CED.A A-REI.B **Dynamic Learning Maps-Essential Elements** M.EE.N-CN.2.a M.EE.N-CN.2.b M.EE.N-CN.2.c
MP 2		
Unit 2 Expressions, Equations and Inequalities (20 days)	**Chapters:** Converting between Decimals and Fractions Algebraic Expressions: Graphing Equations **Unit Assessment:** Cell Phone Project (3 days)	**New Jersey Student Learning Standards** N-RN.A.2 B.. N-Q.A . A-SSE.A A. A-CED.A A-REI.B **Dynamic Learning Maps-Essential Elements** M.EE.N-CN.2.a M.EE.N-CN.2.b M.EE.N-CN.2.c
Unit 3 Ratios and Proportional Relationships (18 days)	**Chapters:** Decimals Functions and Ratios **Unit Assessment:** Decimal Project (3 days) Function and Ratio Task (3 days)	**New Jersey Student Learning Standards** N-RN.A.2 B. N-Q.A A-SSE.A A F-BF.2 F-IF.1-3 **Dynamic Learning Maps-Essential Elements** A-SSE.4 EE.N-CN.2.b. EE.N-CN.2.c.