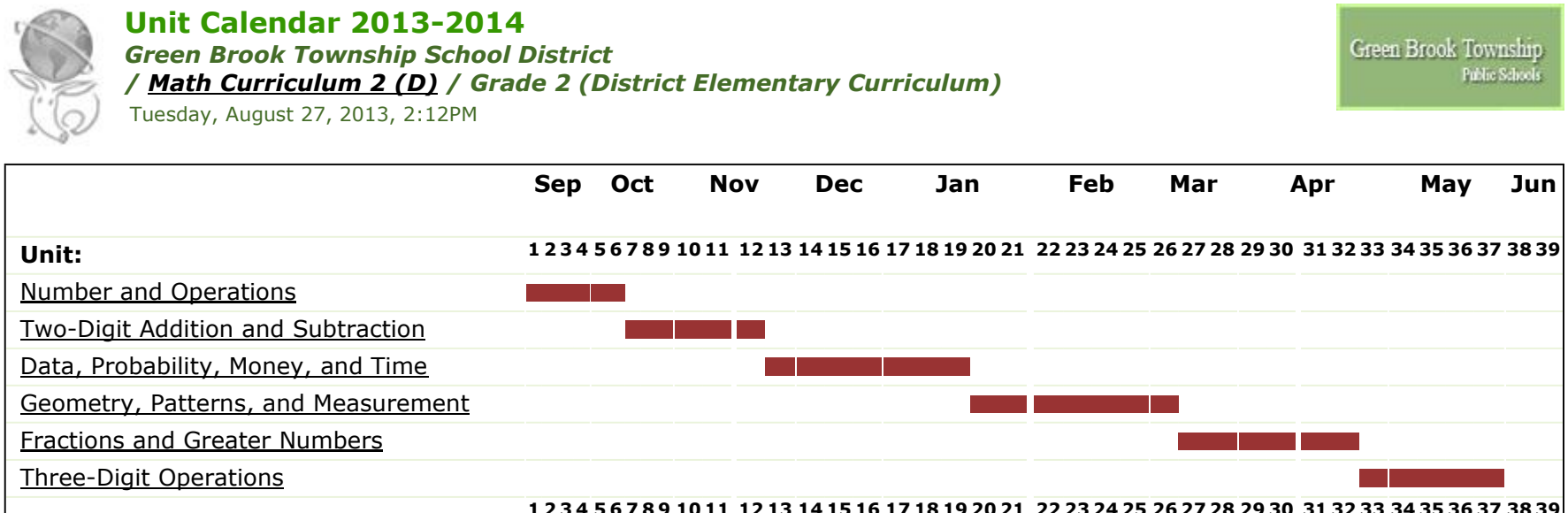
Unit Calendar 2013-2014

Green Brook Township School District

/ Math Curriculum 2 (D) / Grade 2 (District Elementary Curriculum)

Tuesday, August 27, 2013, 2:12PM



Last Updated: Tuesday, September 20, 2011, 3:26PM

Atlas Version 7.2.6

Unit Map 2013-2014

Green Brook Township School District

/ Math Curriculum 2 (D) / Grade 2 (District Elementary Curriculum)

Tuesday, August 27, 2013, 2:12PM

Green Brook Township Public Schools

Unit: Number and Operations (Week 1, 6 Weeks)

New Jersey Core Curriculum Standards

Identifying Established Unit Goals and Alignment

CommonCore: Mathematics, CommonCore: Grade 2, Mathematical Practice

The Standards for Mathematical Practice describe varieties of expertise that mathematics educators at all levels should seek to develop in their students.

- 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.

CommonCore: Mathematics, CommonCore: Grade 2, Number & Operations in Base Ten

2.NBT Understand place value.

- 2.NBT.1. Understand that the three digits of a three-digit number represent amounts of hundreds, tens, and ones; e.g., 706 equals 7 hundreds, 0 tens, and 6 ones. Understand the following as special cases:
- 2.NBT.1a. 100 can be thought of as a bundle of ten tens — called a “hundred.”
- 2.NBT.1b. The numbers 100, 200, 300, 400, 500, 600, 700, 800, 900 refer to one, two, three, four, five, six, seven, eight, or nine hundreds (and 0 tens and 0 ones).
- 2.NBT.2. Count within 1000; skip-count by 5s, 10s, and 100s.
- 2.NBT.3. Read and write numbers to 1000 using base-ten numerals, number names, and expanded form.
- 2.NBT.4. Compare two three-digit numbers based on meanings of the hundreds, tens, and ones digits, using >, =, and < symbols to record the results of comparisons.

2.NBT Use place value understanding and properties of operations to add and subtract.

- 2.NBT.5. Fluently add and subtract within 100 using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction.
- 2.NBT.6. Add up to four two-digit numbers using strategies based on place value and properties of operations.

- 2.NBT.7. Add and subtract within 1000, 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. Understand that in adding or subtracting three-digit numbers, one adds or subtracts hundreds and hundreds, tens and tens, ones and ones; and sometimes it is necessary to compose or decompose tens or hundreds.
- 2.NBT.8. Mentally add 10 or 100 to a given number 100–900, and mentally subtract 10 or 100 from a given number 100–900.
- 2.NBT.9. Explain why addition and subtraction strategies work, using place value and the properties of operations.

Description of Unit	**Essential Questions**
In this unit, students will recognize basic fact strategies for addition and subtraction based on number patterns and relationships. They will use the inverse relationship between addition and subtraction to complete computation problems. Students will recognize place value to 100. They will learn that digits are regrouped in sets of tens, and hundreds and that the position of a digit determines its value. Students will compare and order numbers according to their relative values.	What is addition? How do patterns and strategies help you to solve problems? How is adding two numbers different from adding three numbers? How is subtraction different from addition? What is a fact family? How is subtraction related to addition? How do you estimate an answer? What is place value? How can you compare and order numbers?
Knowledge	**Skills**
Students will know that: 1. Numbers can be added. 2. Numbers can be subtracted. 3. The position of a number determines its value.	Students will be able to: a. Add single digits. b. Count on to solve addition problems. c. Add to make tens. d. Follow rules to solve addition problems. e. Add three numbers. f. Count back to solve subtraction problems.

4. Numbers can be written in different ways.

5. Ordinal numbers are used to identify positions.

6. Numbers can be compared and ordered.

7. Numbers can be rounded to the nearest 10.

8. Problems can be solved using patterns.

g. Use fact families to solve subtraction problems.
h. Choose an operation to solve a problem.
i. Understand place value.
j. Write numbers in expanded form.
k. Read and write numbers to 100.
l. Make reasonable estimates.
m. Compare numbers.
n. Order numbers.
o. Round numbers to the nearest 10.
p. Recognize even and odd numbers.
q. Find patterns to solve problems.

Assessments

Inventory test
Diagnostic: Written Test
Mathmatical Practice 1-8
2NBT.1,1a, 1b,2,3,4,5,6,,7,8

Quick review
Formative: Written Test
Mathmatical Practice 1, 2, 4
2NBT .7,2NBT.5,2NMT.6

Close and assess
Formative: Written Test

Unit 1 Review Test
Summative: Written Test
Mathmatical Practices 1, 6, 2
2NBT 1-9

Unit 1-3 Benchmark Test
Summative: Written Test
Mathmatical Practices 1-8
2NMT 1-9

Calendar Activity
Formative: Other written assessments
Mathmatical Practice 7,8
2NBT.5

Count Sunny, rainy days in a month.
Write addition sentences to represent.

Making Sums
Formative: Other written assessments
Mathmatical Practices 5,6
2NBT 9
Use addition strategies to add numeral cards

Base Ten blocks
Formative: Other visual assessments
Mathmatical Practices 4,5,6
2NBT 2,3,6
Use base ten blocks to model digit numbers in a variety of ways

Unit 1 Benchmark test
Pre tests

Activities	Activities to Differentiate Instruction
Math Storybook: Use literature to review and reinforce number and operations. Activity: How many marbles? Investigate addition facts and strategies using marbles. Ten Cent Subtraction: Investigate subtraction facts and strategies using dimes and pennies. The Wonder of Place Value: Investigate place value using base ten blocks. Coin Bank Patterning: use coins to investigate number patterns and concepts.	Vocabulary cards/lists Study guides for assessments Pre-printed worksheets Visual Aids Modified tests Resource supplements Computer websites Tiered class/homework assignments Foldables and graphic organizers
Integrated/Cross-Disciplinary Instruction	**Resources**
Language Arts:Read aloud math-related stories and trade books.	**HSP Math Grade 2** Teacher's Guide and Student book

Science: Use observed heights to understand place value. Music: Write a one line rhythm pattern.	**HSP Math Practice Workbook** (practice work and spiral review) **HSP Math Teacher's Resource Book**: masters for enrichment, problem solving, re-teach activities; problem of the day **Manipulatives:** workmats, unifix cubes and counters **HSP ThinkCentral**: student text; teacher's guide; enrichment, re-teach, problem solving and practice worksheets; on-line intervention and enrichment (MegaMath)activities; iTools (link attached) **Smart Board technology** **Read Aloud Books** **Songs** **HSP Leveled Math Concept Readers**

< < Previous Year

Last Updated: Tuesday, September 20, 2011, 3:22PM

Atlas Version 7.2.6

Unit Map 2013-2014

Green Brook Township School District
/ Math Curriculum 2 (D) / Grade 2 (District Elementary Curriculum)
Tuesday, August 27, 2013, 2:12PM

Green Brook Township Public Schools

Unit: Two-Digit Addition and Subtraction (Week 7, 6 Weeks)

New Jersey Core Curriculum Standards

CommonCore: Mathematics, CommonCore: Grade 2, Mathematical Practice
The Standards for Mathematical Practice describe varieties of expertise that mathematics educators at all levels should seek to develop in their students.

- 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.

CommonCore: Mathematics, CommonCore: Grade 2, Operations & Algebraic Thinking
2.OA Represent and solve problems involving addition and subtraction.

- 2.OA.1. Use addition and subtraction within 100 to solve one- and two-step word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem.

2.OA Add and subtract within 20.

- 2.OA.2. Fluently add and subtract within 20 using mental strategies. By end of Grade 2, know from memory all sums of two one-digit numbers.

CommonCore: Mathematics, CommonCore: Grade 2, Number & Operations in Base Ten
2.NBT Use place value understanding and properties of operations to add and subtract.

- 2.NBT.5. Fluently add and subtract within 100 using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction.
- 2.NBT.6. Add up to four two-digit numbers using strategies based on place value and properties of operations.

- 2.NBT.7. Add and subtract within 1000, 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. Understand that in adding or subtracting three-digit numbers, one adds or subtracts hundreds and hundreds, tens and tens, ones and ones; and sometimes it is necessary to compose or decompose tens or hundreds.
- 2.NBT.8. Mentally add 10 or 100 to a given number 100–900, and mentally subtract 10 or 100 from a given number 100–900.
- 2.NBT.9. Explain why addition and subtraction strategies work, using place value and the properties of operations.

Description of Unit	**Essential Questions**
In this unit, students will learn that the addition and subtraction of multi-digit numbers are based on basic addition and subtraction facts and base-ten and place-value concepts. They will learn that numbers can be broken apart and grouped in different ways to make calculations simpler. Students will practice a variety of problem-solving strategies. They will use inverse operations to check answers. Students will use rounding to check the reasonableness of their answers.	How can you use mental math to add multiples of ten? How do you regroup ones to make ten? How can you use a model to show regrouping in addition? What steps help you to add two-digit numbers? How can you use mental math to subtract multiples of ten? How can you use a model to show regrouping in subtraction? What steps help you to subtract with regrouping? How can you use addition to check subtraction? How can you use estimation to check your work?

Knowledge	**Skills**
Students will know that: 1. Basic fact strategies for addition are based on number patterns and relationships. 2. Basic fact strategies for subtraction are based on counting back.	Students will be able to: a. Count by tens to add multiples of ten. b. Model two-digit addition with and without regrouping. c. Model two-digit addition to find sums. d. Solve problems by using the strategy make a model. e. Record sums for models of two-digit addition.

3. There is an inverse relationship between addition and subtraction.

4. Numbers are named using the digits, 0-9.

5. Numbers are grouped in sets of tens, hundreds, and so on.

6. The position of a digit determines its value.

7. Numbers can be compared.

8. Numbers can be ordered.

f. Add two-digit numbers with and without regrouping.
g. Rewrite addition exercises from horizontal to vertical formats.
h. Use rounding to estimate sums of two-digit numbers.
i. Solve problems by using the skill use a table.
j. Use mental math to add two-digit numbers.
k. Count back by tens to subtract multiples of ten.
l. Model subtracting 1-digit numbers from two-digit numbers.
m. Model and record subtraction of one-digit numbers from two -digit numbers.
n. Model and record subtraction of two-digit numbers from two -digit numbers.
o. Record differences in two-digit subtraction with and without regrouping.
p. Rewrite subtraction problems from horizontal to vertical formats.
q. Subtract two-digits with and without regrouping.
r. Check differences by using the inverse operation of addition.
s. Use rounding to estimate differences in two-digit subtraction.
t. Use mental math to find differences.
u. Solve problems by using the skill choose a method.

Assessments

Inventory test
Diagnostic: Written Test
Mathmatical Practice 1,2
2NBT 5,6,7

Quick Review
Formative: Written Test
Mathmatical Practice 1, 6, 7
2.OA.3,.4

Close and assess
Formative: Written Test
Mathmatical Practice 1, 6, 7
2.OA.3,.4

Unit 2 Review Test
Summative: Written Test
Mathmatical Practice 1,2,6
2NBT .5, .6,.7,.8

Base-ten blocks
Formative: Other visual assessments
Mathmatical Practice 1, 4,6, 7
2.OA.3,.4
Use base ten blocks to find a sum

Writing addition problems
Formative: Other written assessments
Mathmatical Practice 3,4
2.OA.2,3,.4
Use workmats and base-ten blocks to write addtion story problems.

Unit 2 Summative Test
Unit 2 Pre test

Activities	Activities to Differentiate Instruction
Count on Addition: use base-ten blocks to model addition problems. Addition Game: use base-ten blocks to investigate two-digit addition. Dollar Down: use play coins and number cubes to investigate two-digit subtraction. Sums and Differences: use base-ten blocks and number cubes to investigate adding and subtracting two-digit numbers.	Vocabulary cards/lists Study guides for assessments Pre-printed worksheets Visual Aids Modified tests Resource supplements Computer websites Tiered class/homework assignments Foldables and graphic organizers

Integrated/Cross-Disciplinary Instruction	Resources
Physical Education: count the number of hops in a given time period Science: Measure the heights of plants and use subtraction to compare heights Reading: Math concept leveled readers and trade books	**HSP Math Grade 2** Teacher's Guide and Student book **HSP Math Practice Workbook** (practice work and spiral review) **HSP Math Teacher's Resource Book**: masters for enrichment, problem solving, re-teach activities; problem of the day **Manipulatives:** workmats, unifix cubes and counters **HSP ThinkCentral**: student text; teacher's guide; enrichment, re-teach, problem solving and practice worksheets; on-line intervention and enrichment (MegaMath)activities; iTools (link attached) **Smart Board technology** **Read Aloud Books** **Songs** **HSP Leveled Math Concept Readers**

<< Previous Year

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Atlas Version 7.2.6

Unit Map 2013-2014

Green Brook Township School District
/ Math Curriculum 2 (D) / Grade 2 (District Elementary Curriculum)
Tuesday, August 27, 2013, 2:13PM

Green Brook Township Public Schools

Unit: Data, Probability, Money, and Time (Week 13, 7 Weeks)

New Jersey Core Curriculum Standards

CommonCore: Mathematics, CommonCore: Grade 2, Mathematical Practice
The Standards for Mathematical Practice describe varieties of expertise that mathematics educators at all levels should seek to develop in their students.

- 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.

CommonCore: Mathematics, CommonCore: Grade 2, Measurement & Data
2.MD Work with time and money.

- 2.MD.7. Tell and write time from analog and digital clocks to the nearest five minutes, using a.m. and p.m.
- 2.MD.8. Solve word problems involving dollar bills, quarters, dimes, nickels, and pennies, using $ and ¢ symbols appropriately. Example: If you have 2 dimes and 3 pennies, how many cents do you have?

2.MD Represent and interpret data.

- 2.MD.9. Generate measurement data by measuring lengths of several objects to the nearest whole unit, or by making repeated measurements of the same object. Show the measurements by making a line plot, where the horizontal scale is marked off in whole-number units.
- 2.MD.10. Draw a picture graph and a bar graph (with single-unit scale) to represent a data set with up to four categories. Solve simple put-together, take-apart, and compare problems1 using information presented in a bar graph.

Description of Unit	Essential Questions
	What is a survey?

In this unit, students will collect and use data to determine a graphical format to create a visual representation. They will investigate probability as a basis for making predictions. Students will learn to represent money in a variety of ways. They will compare money amounts and add and subtract using basic facts and concepts of whole number and decimal place value. Students will investigate the concept of time as the duration of an event from its beginning to end.

How does using a table help you solve a problem?
How do you read how many a bar stands for on a bar graph?
What information do you need to show on a bar graph?
How does the key on a pictograph hep you read the data?
How do you read a line plot?
How do you move on a grid to locate a point?
How is a certain event different from an impossible event?
How is an event that is more likely to happen different from one that is less likely to happen?
What are the possible outcomes of an event?
What does it mean when events are equally likely?
What is a prediction?
How can you count a collection of coins?
How can you show the same amount of money using different coins?
How can you compare money amounts?
How can you add or subtract money amounts?
What are problem-solving strategies?

Knowledge	**Skills**
Students will know that: 1. Data can be collected and interpreted using graphs. 2. The type of data determines the best graphical format to visually represent the data. 3. Data sets can be understood using measures of central tendency. 4. Possible outcomes can be recorded and used to make predictions about future events. 5. Money amounts can be represented in different ways that show the same amount. 6. Money amounts can be compared according to their relative values. 7. Money can be added and subtracted using basic facts and concepts of whole number and decimal place value. 8. Time is measured in minutes and hours. 9. Time is the duration of an event from its beginning to its end. 10. Elapsed time tells how much time has passed from start to finish.	Students will be able to: a. Record the results of a survey in a tally table and in a frequency table. b. Solve problems by using the skill, read a table. c. Read bar graphs to find information. d. Represent data in a table and in a bar graph. e. Understand data shown in a pictograph. f. Find the range and mode for a set of data. g. Follow directions to locate points on a grid. h. Predict an event as certain or impossible. i. Describe the likelihood of an event as more likely or less likely. j. Record possible outcomes. k. Describe when outcomes are equally likely. l. Solve problems by using the skill, making a prediction. m. Find the total value of collections of dimes, nickels and pennies to $0.50. n. Find the total value of collections of coins, including half-dollars and quarters.

11. A.M. and P.M. represent events that occur before or after noon.	o. Order coins in a collection by value to find the total value. p. Model the same amount using different combinations of coins. q. Solve problems by using the strategy, make a list. r. Compare the total values of collections of coins. s. Solve problems by using the strategy, act it out. t. Add and subtract money amounts less that one dollar. u. Solve problems by using the strategy, predict and test. v. Show one dollar in a variety of ways. w. Count on from amount tendered to determine the change. x. Explore measurement of time in minutes and in hours. y. Tell time to the quarter hour. z. Tell and show times to five minutes. aa. Tell time as minutes before the hour. bb. Solve problems by using the skill, make reasonable estimates. cc. Describe times of events as A.M. or P.M. dd. Determine how much time has passed from the start to the completion of an event. ee. Understand relationships of units of time.

Assessments

Inventory test
Diagnostic: Written Test
Mathmatical Practice 2,4,5,6
2.MD.7,8,9,10

Quick Review
Formative: Written Test
Mathmatical Practice 2,4,5,6
2.MD.7,8,9,10

Check for Understanding
Formative: Written Test
Mathmatical Practice 2,4,5,6
2.MD.7,8,9,10

Unit 3 Review Test
Summative: Written Test

Mathmatical Practice 2,4,5,6
2.MD.7,8,9,10

Game Time
Formative: Other visual assessments
Mathmatical Practice 2,3,4,6
2.MD.9,10
Determine Class Favorite Sport Graph

Rocks/Math Story book
Formative: Other visual assessments
Mathmatical Practice 2,4,5,6
2.MD.7,8,9,10
Interpret a bar graph

Making Graphs
Formative: Other visual assessments
Mathmatical Practice 2,4,5,6
2.MD.7,8,9,10
Use connecting cubes to model data

Unit 3 summative test
Unit 3 Pre Test

Activities	Activities to Differentiate Instruction
Making Graphs: use chart paper,connecting cubes, crayons to investigate data and graphs. Explore the Likelihood of Events: use connecting cubes and paper bags to investigate the probability of events. What's in Your Pocket?: use coins to investigate counting money. What's in my Wallet?: use coins and dollar bills to investigate money. It's About Time: use a clock with a second hand and a demonstration clock to investigate time.	Vocabulary cards/lists Study guides for assessments Pre-printed worksheets Visual Aids Modified tests Resource supplements Computer websites Tiered class/homework assignments Foldables and graphic organizers

Integrated/Cross-Disciplinary Instruction	Resources
Social Studies: Investigate other forms of money. Science: Make a bar graph that displays scientific data. Reading: Math Concept Readers and trade books	**HSP Math Grade 2** Teacher's Guide and Student book **HSP Math Practice Workbook** (practice work and spiral review) **HSP Math Teacher's Resource Book**: masters for enrichment, problem solving, re-teach activities; problem of the day **Manipulatives:** workmats, unifix cubes and counters **HSP ThinkCentral**: student text; teacher's guide; enrichment, re-teach, problem solving and practice worksheets; on-line intervention and enrichment (MegaMath)activities; iTools (link attached) **Smart Board technology** **Read Aloud Books** **Songs** **HSP Leveled Math Concept Readers**

< < Previous Year

Last Updated: Tuesday, September 20, 2011, 3:23PM

Atlas Version 7.2.6

Unit Map 2013-2014

Green Brook Township School District
/ Math Curriculum 2 (D) / Grade 2 (District Elementary Curriculum)
Tuesday, August 27, 2013, 2:14PM

Green Brook Township Public Schools

Unit: Geometry, Patterns, and Measurement (Week 20, 7 Weeks)

New Jersey Core Curriculum Standards

CommonCore: Mathematics, CommonCore: Grade 2, Mathematical Practice
The Standards for Mathematical Practice describe varieties of expertise that mathematics educators at all levels should seek to develop in their students.

- 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.

CommonCore: Mathematics, CommonCore: Grade 2, Measurement & Data
2.MD Measure and estimate lengths in standard units.

- 2.MD.1. Measure the length of an object by selecting and using appropriate tools such as rulers, yardsticks, meter sticks, and measuring tapes.
- 2.MD.2. Measure the length of an object twice, using length units of different lengths for the two measurements; describe how the two measurements relate to the size of the unit chosen.
- 2.MD.3. Estimate lengths using units of inches, feet, centimeters, and meters.
- 2.MD.4. Measure to determine how much longer one object is than another, expressing the length difference in terms of a standard length unit.

2.MD Relate addition and subtraction to length.

- 2.MD.5. Use addition and subtraction within 100 to solve word problems involving lengths that are given in the same units, e.g., by using drawings (such as drawings of rulers) and equations with a symbol for the unknown number to represent the problem.

CommonCore: Mathematics, CommonCore: Grade 2, Geometry
2.G Reason with shapes and their attributes.

- 2.G.2.MD.1. Recognize and draw shapes having specified attributes, such as a given number of angles or a given number of equal faces. Identify triangles, quadrilaterals, pentagons, hexagons, and cubes.
- 2.G.2.MD.2. Partition a rectangle into rows and columns of same-size squares and count to find the total number of them.
- 2.G.2.MD.3. Partition circles and rectangles into two, three, or four equal shares, describe the shares using the words halves, thirds, half of, a third of, etc., and describe the whole as two halves, three thirds, four fourths. Recognize that equal shares of identical wholes need not have the same shape.

Description of Unit	**Essential Questions**
In this unit, students will describe, sort and classify three-dimensional objects according to their attributes. They will compare, sort, and classify two-dimensional figures according to their geometric properties. Students will identify, describe and extend patterns with words and symbols. They will use measurement to find the length, perimeter, and area of an object. They will also become familiar with weight, mass, capacity, and temperature.	How are a cone and a cylinder alike and different? How is an edge of a figure different from a vertex? How is a pyramid different from a rectangular prism? What plane figures make up the faces of a pyramid? How does making a table help you to solve a problem? Which plane figures have four sides? What attributes can you use to sort plane figures? How can you put triangles together to make a rhombus? How can you take apart a rectangle to make two new figures? How can you use logical reasoning to solve problems about plane figures? How is a turn different from a flip? What are congruent figures? What is a line of symmetry?
Knowledge	**Skills**
Students will know that: 1. Solid figures have length, width, and height. 2. Solid figures are made up of plane figures. 3. Plane figures can be described and classified according to specific attributes. 4. Plane figures can be transformed. 5. Congruent figures are the same size and shape. 6. A line of symmetry divides a plane figure into congruent figures.	Students will be able to: a. Identify solid figures. b. Sort figures according to surfaces. c. Describe attributes of solid figures. d. Use attributes to compare and contrast solid figures. e. Make plane figures from solid figures. f. Solve problems by using the strategy, make a table. g. Identify plane figures. h. Describe and classify plane figures. i. Combine plane figures to make new figures. j. Separate plane figures to make new figures. k. Solve problems by using the strategy, use logical reasoning.

	l. Transform figures by translation, reflection, or rotation. m. Use attributes to describe how two figures are congruent. n. Use a line of symmetry to divide a plane figure into congruent figures.

Assessments

Inventory Test
Diagnostic: Written Test
Mathmatical Practice 1-8
2.MD.1-5
2MD 7-10
2,G.2.MD1-3

Quick Review
Formative: Written Test
Mathmatical Practice 1-8
2.MD.1-5
2MD 7-10
2,G.2.MD1-3

Check for Understanding
Formative: Written Test
Mathmatical Practice 1-8
2.MD.1-5
2MD 7-10
2,G.2.MD1-3

Unit 4 Review Test
Summative: Written Test
Mathmatical Practice 1-8
2.MD.1-5
2MD 7-10
2,G.2.MD1-3

Solid Figures
Formative: Other visual assessments
Mathmatical Practice 4
2.MD.1,4
Use models to compare and contrast solid figures

Technology Connection
Formative: Other visual assessments
Mathmatical Practice 4
2.G.MD.1
Use iTools: Geometry to number faces and vertices of geometric solids.

Estimate or Measure
Formative: Other visual assessments
Mathmatical Practice 2,3,5
2.MD.9
Estimate then measure lengths of items in classroom

unit 4 summative test
Unit 4 pre test

Activities	**Activities to Differentiate Instruction**
Investigate Solid Figures: use models to investigate solid figures. Shape Designs: Investigate spatial sense and the attributes of plane figures using pattern blocks. Investigate People Patterns: Investigate patterns using people. Estimate or Measure?: Use an inch ruler and a yard stick to estimate and measure items. Measure and Compare Capacity: Use a variety of containers to model and compare capacity.	Vocabulary cards/lists Study guides for assessments Pre-printed worksheets Visual Aids Modified tests Resource supplements Computer websites Tiered class/homework assignments Foldables and graphic organizers
Integrated/Cross-Disciplinary Instruction	**Resources**
Art: Make a model using solid figures. Science: Use a ruler to measure models. Reading: Math Concept Readers and trade books	**HSP Math Grade 2** Teacher's Guide and Student book **HSP Math Practice Workbook** (practice work and spiral review) **HSP Math Teacher's Resource Book**: masters for enrichment, problem solving, re-teach activities; problem of the day

	Manipulatives: workmats, unifix cubes and counters **HSP ThinkCentral**: student text; teacher's guide; enrichment, re-teach, problem solving and practice worksheets; on-line intervention and enrichment (MegaMath)activities; iTools (link attached) **Smart Board technology** **Read Aloud Books** **Songs** **HSP Leveled Math Concept Readers**

< < Previous Year

Last Updated: Tuesday, September 20, 2011, 3:24PM

Atlas Version 7.2.6

Unit Map 2013-2014

Green Brook Township School District
/ Math Curriculum 2 (D) / Grade 2 (District Elementary Curriculum)
Tuesday, August 27, 2013, 2:15PM

Green Brook Township Public Schools

Unit: Fractions and Greater Numbers (Week 27, 6 Weeks)

New Jersey Core Curriculum Standards

CommonCore: Mathematics, CommonCore: Grade 2, Mathematical Practice
The Standards for Mathematical Practice describe varieties of expertise that mathematics educators at all levels should seek to develop in their students.

- 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.

CommonCore: Mathematics, CommonCore: Grade 2, Number & Operations in Base Ten
2.NBT Understand place value.

- 2.NBT.1. Understand that the three digits of a three-digit number represent amounts of hundreds, tens, and ones; e.g., 706 equals 7 hundreds, 0 tens, and 6 ones. Understand the following as special cases:
- 2.NBT.1a. 100 can be thought of as a bundle of ten tens — called a “hundred.”
- 2.NBT.2. Count within 1000; skip-count by 5s, 10s, and 100s.
- 2.NBT.3. Read and write numbers to 1000 using base-ten numerals, number names, and expanded form.
- 2.NBT.4. Compare two three-digit numbers based on meanings of the hundreds, tens, and ones digits, using >, =, and < symbols to record the results of comparisons.

2.NBT Use place value understanding and properties of operations to add and subtract.

- 2.NBT.5. Fluently add and subtract within 100 using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction.
- 2.NBT.6. Add up to four two-digit numbers using strategies based on place value and properties of operations.
- 2.NBT.7. Add and subtract within 1000, 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. Understand

that in adding or subtracting three-digit numbers, one adds or subtracts hundreds and hundreds, tens and tens, ones and ones; and sometimes it is necessary to compose or decompose tens or hundreds.

- 2.NBT.8. Mentally add 10 or 100 to a given number 100–900, and mentally subtract 10 or 100 from a given number 100–900.
- 2.NBT.9. Explain why addition and subtraction strategies work, using place value and the properties of operations.

Description of Unit	**Essential Questions**
In this unit, students will recognize fractional parts as equal-sized portions of a whole or a group. They will recognize place value to 1,000. Students will learn that numbers are named using the digits, 0-9, and are grouped in sets of tens, hundreds, and so on. Students will recognize place value. Students will compare and order numbers according to their relative values.	What do the top and bottom numbers of a fraction tell? How can you make a model to compare two fractions? How do you know if a fraction is equal to one whole? How is naming a fraction for a group different from naming a fraction of a whole? How can you show 100 with ones, ten, and hundreds? How can you model and write a three-digit number? What is the value of each digit in a three-digit number? How do you read and write three-digit numbers? How does making a model help you solve a problem? What symbols are used to compare numbers? How does knowing place value help you to compare numbers? How do you order numbers?
Knowledge	**Skills**
Students will know that: 1. Fractional parts are equal shares or equal-sized portions of a whole or a group. 2. Fractions can be modeled. 3. The numerator of a fraction represents the number of parts being counted. 4. The denominator of a fraction represents the number of parts of the whole. 5. Numbers are named using the digits, 0-9. 6. Numbers are grouped in sets of tens, hundreds, and so on. 7. The position of a digit determines its value. 8. Numbers can be compared and ordered according to their relative values.	Students will be able to: a. Identify fractions for one equal part of a whole. b. Compare unit fractions by using models. c. Solve problems by using the strategy, make a model. d. Identify fractions that represent more than one equal part of a whole. e. Identify fractions that describe a whole and are equal to one. f. Identify, model, and write fractions for parts of a group. g. Understand hundreds as groups of tens. h. Use models to identify the number of hundreds, tens, and ones of three-digit numbers. i. Identify the place value of digits in greater numbers. j. Read and write three-digit numbers in different ways.

k. Use the greater than, less than, and equal symbols to compare three-digit numbers.
l. Use place value to compare numbers.
m. Write three-digit numbers in order from greatest to least and from least to greatest.
n. Solve problems by using the strategy, use a table.
o. Identify and extend counting patterns.
p. Understand that numbers can be modeled in different ways.

Assessments

Inventory test
Diagnostic: Written Test
Mathmatical Practices 1-8
2.NBT.1-9

Quick Review
Formative: Written Test
Review previously learned material to check for understanding.
Mathmatical Practices 1-8
2.NBT.1-9

Unit Test
Summative: Written Test
Mathmatical Practices 1-8
2.NBT.1-9

Compare Unit Fractions
Formative: Other visual assessments
Mathmatical Practices 4
2.NBT.3
Use fraction bars to model and compare unit fractions

Hundreds, Tens and Ones
Formative: Other visual assessments
Mathmatical Practices 1-8
2.NBT.7, 1b
Use base ten blocks to model hundreds, tens, and ones, and then write the number

Compare Numbers
Formative: Other visual assessments

Mathmatical Practices 2,4
2.NBT.1
Use base ten blocks to compare hundreds and tens

Unit 5 summative test
Unit 5 pre test

Activities	**Activities to Differentiate Instruction**
Even Shares: Use connecting cubes to investigate fractions. Estimate Amounts: Use beans or other small countable items to explore estimation strategies. Penny Order: Use the dates on real pennies to compare and order greater numbers. Word Wall: Introduce and review math vocabulary.	Vocabulary cards/lists Study guides for assessments Pre-printed worksheets: tiered Visual Aids Modified tests Resource supplements Computer websites Tiered class/homework assignments Foldables and graphic organizers ELL Language Support Practice Games Workstations Kit Activity
Integrated/Cross-Disciplinary Instruction	**Resources**
Physical Education: Use place value to compare lengths of jumps. Science: Use germinating bean seeds to understand fractions. Reading: Leveled Math Concept Readers, trade books.	**HSP Math Grade 2 Teacher's Guide and Student book** **HSP Math Practice Workbook (practice work and spiral review)** **HSP Math Teacher's Resource Book: masters for enrichment, problem solving, re-teach activities; problem of the day** **Manipulatives: workmats, unifix cubes and counters** **HSP ThinkCentral: student text; teacher's guide; enrichment, re-teach, problem solving and practice worksheets; on-line intervention and enrichment (MegaMath)activities; iTools (link attached)** **Smart Board technology** **Read Aloud Books:** **Songs: HSP Leveled Math Concept Readers** **HSP Math Grade 2 Teacher's Guide and Student book**

	HSP Math Practice Workbook (practice work and spiral review) **HSP Math Teacher's Resource Book: masters for enrichment, problem solving, re-teach activities; problem of the day** **Manipulatives: workmats, unifix cubes and counters** **HSP ThinkCentral: student text; teacher's guide; enrichment, re-teach, problem solving and practice worksheets; on-line intervention and enrichment (MegaMath)activities; iTools (link attached)** **Smart Board technology** **Read Aloud Books** **Songs** **HSP Leveled Math Concept Readers**

<< Previous Year

Last Updated: Tuesday, September 20, 2011, 3:25PM

Atlas Version 7.2.6

Unit Map 2013-2014

Green Brook Township School District
/ Math Curriculum 2 (D) / Grade 2 (District Elementary Curriculum)
Tuesday, August 27, 2013, 2:16PM

Green Brook Township Public Schools

Unit: Three-Digit Operations (Week 33, 5 Weeks)

New Jersey Core Curriculum Standards

CommonCore: Mathematics, CommonCore: Grade 2, Mathematical Practice
The Standards for Mathematical Practice describe varieties of expertise that mathematics educators at all levels should seek to develop in their students.

- 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.

CommonCore: Mathematics, CommonCore: Grade 2, Operations & Algebraic Thinking
2.OA Represent and solve problems involving addition and subtraction.

- 2.OA.1. Use addition and subtraction within 100 to solve one- and two-step word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem.

2.OA Add and subtract within 20.

- 2.OA.2. Fluently add and subtract within 20 using mental strategies. By end of Grade 2, know from memory all sums of two one-digit numbers.

2.OA Work with equal groups of objects to gain foundations for multiplication.

- 2.OA.3. Determine whether a group of objects (up to 20) has an odd or even number of members, e.g., by pairing objects or counting them by 2s; write an equation to express an even number as a sum of two equal addends.
- 2.OA.4. Use addition to find the total number of objects arranged in rectangular arrays with up to 5 rows and up to 5 columns; write an equation to express the total as a sum of equal addends.

CommonCore: Mathematics, CommonCore: Grade 2, Number & Operations in Base Ten
2.NBT Use place value understanding and properties of operations to add and subtract.

- 2.NBT.5. Fluently add and subtract within 100 using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction.
- 2.NBT.6. Add up to four two-digit numbers using strategies based on place value and properties of operations.
- 2.NBT.7. Add and subtract within 1000, 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. Understand that in adding or subtracting three-digit numbers, one adds or subtracts hundreds and hundreds, tens and tens, ones and ones; and sometimes it is necessary to compose or decompose tens or hundreds.
- 2.NBT.8. Mentally add 10 or 100 to a given number 100–900, and mentally subtract 10 or 100 from a given number 100–900.
- 2.NBT.9. Explain why addition and subtraction strategies work, using place value and the properties of operations.

Description of Unit	**Essential Questions**
In this unit, students will perform operations on multi-digit numbers. They will recognize that addition and subtraction are based on base-ten and place-value concepts. Students will learn that multiplication and division are inverse operations. They will discover that multiplication is related to repeated addition and that division is related to repeated subtraction.	How can you count on by hundreds to add three-digit numbers? How can you make a model to regroup tens to add three-digit numbers? How do you determine whether you have too much information in a problem? How can you count back by hundreds to find the difference of three-digit numbers? How can you make a model to regroup tens to subtract three-digit numbers? How do you regroup to add money amounts and subtract money amounts? How do you solve multi-step problems? How do you estimate differences for three-digit subtraction problems? When can you skip-count to find how many in all? How can you use multiplication to represent repeated addition? How can you make an array to show multiplication? Why can you multiply numbers in any order? How do you multiply with one and zero? How does writing a number sentence help you solve a problem? How can you make a model to show how many in each group? How can you make a model to show how many equal groups? How can you use subtraction to solve a division problem?

Knowledge	**Skills**
Students will know that: 1. Addition of multi-digit numbers is based on single-digit addition facts and base-ten place-value concepts. 2. Subtraction of multi-digit numbers is based on basic subtraction facts and base-ten and place-value concepts. 3. Multiplication and division are inverse operations. 4. Multiplication is related to repeated addition. 5. Division is related to repeated subtraction.	Students will be able to: a. Count on by hundreds to add multiples of 100. b. Explore three-digit addition with and without regrouping of ones. c. Explore three-digit addition with and without regrouping of tens. d. Estimate sums for three-digit addition. e. Solve problems by using the skill too much information. f. Count back by hundreds to subtract multiples of 100. g. Explore three-digit subtraction with possible regrouping of tens. h. Explore three-digit subtraction with possible regrouping of hundreds. i. Add and subtract money amounts in decimal notation. j. Solve problems by using the skill solve multi-step problems. k. Estimate differences for three-digit subtraction. l. Model and skip-count equal groups. m. Use repeated addition to multiply. n. Use arrays to model multiplication. o. Multiply numbers in any order. p. Use the properties of one and zero for multiplication. q. Solve problems by sing the strategy write a number sentence. r. Model and describe partition division. s. Model and describe measurement division. t. Use repeated subtraction to divide.

Assessments

Inventory test
Diagnostic: Written Test
Mathmatical Practices 1-8
2.OA.1-4
2.NBT.5-9

Quick Review
Formative: Written Test

Review and evaluate mastery of previously learned material
Mathmatical Practices 1-8
2.OA.1-4
2.NBT.5-9

Guided Practice
Formative: Written Test
Check for understanding at the end of each skill lesson
Mathmatical Practices 1-8
2.OA.1-4
2.NBT.5-9

Unit test
Summative: Written Test
Written test assessing mastery of skills taught throughout unit.
Mathmatical Practices 1-8
2.OA.1-4
2.NBT.5-9

Model 3-Digit Addition: Regroup Ones
Formative: Other visual assessments
Mathmatical Practices 1,2,4
2.NBT.6,7
Use base ten blocks to model addition of 3 digit numbers

Estimating Differences
Formative: Other visual assessments
Mathmatical Practices 2,4
2,OA.1, 2
Use a number line to estimate differnces

Model and Describe Partition Division
Formative: Other visual assessments
Mathmatical Practices 1,4
2.OA.1-4
2.NBT.5,7
Use counters to model repeated subtraction and divide into equal groups

Unit 6 summative test
Unit 6 pre test

Activities	Activities to Differentiate Instruction
Addition Game Plus: Investigate three-digit addition using base ten blocks. What is the Difference?: Investigate three-digit subtraction using base ten blocks. Arrays: Investigate multiplication concepts using connecting cubes.	Vocabulary cards/lists Study guides for assessments Pre-printed worksheets Visual Aids Modified tests Resource supplements Computer websites Tiered class/homework assignments Foldables and graphic organizers

Integrated/Cross-Disciplinary Instruction	Resources
Physical Education: Use multiplication to find the number of heartbeats per minute. Science: Use animal characteristics to understand multiplication. Reading: Leveled Math Concept Readers and trade books	**HSP Math Grade 2 Teacher's Guide and Student book** **HSP Math Practice Workbook (practice work and spiral review)** **HSP Math Teacher's Resource Book: masters for enrichment, problem solving, re-teach activities; problem of the day** **Manipulatives: workmats, unifix cubes and counters** **HSP ThinkCentral: student text; teacher's guide; enrichment, re-teach, problem solving and practice worksheets; on-line intervention and enrichment (MegaMath)activities; iTools (link attached)** **Smart Board technology** **Read Aloud Books** **Songs** **HSP Leveled Math Concept Readers**

<< Previous Year

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