Belvidere Cluster Wide
Mathematics Curriculum
2nd grade
Updated Fall 2018

All Belvidere Cluster curriculum and instruction areas are aligned to the New Jersey Student Learning Standards (NJSLS) in accordance with the NJ Department of Education's curriculum implementation requirements.

Interdisciplinary Connections

– English Language Arts
– Science and Scientific Inquiry (Next Generation)
– Social Studies
– Technology
– Visual and Performing Arts

Technology Standards and Integration
iPads
eSpark
Go Math online resources
Xtra Math
Interactive SmartBoard activities

NJSLA Technology
8.1.2.A.2
Create a document using a word processing application.
8.1.2.A.4
Demonstrate developmentally appropriate navigation skills in virtual environments (i.e. games, museums).
8.1.P.B.1
Create a story about a picture taken by the student on a digital camera or mobile device.
8.1.P.C.1
Collaborate with peers by participating in interactive digital games or activities.
8.1.2.E.1
Use digital tools and online resources to explore a problem or issue.

CAREER EDUCATION
(NJDOE CTE Clusters)

– Education & Training
– Finance
– Information Technology
– Science, Technology, Engineering & Mathematics (STEM)

21st Century Skills/ Themes
– Financial, Economic, Business and Entrepreneurial Literacy
– Creativity and Innovation

– Critical Thinking
– Problem Solving
– Communication
– Collaboration
– Information Literacy

CRP1. Act as a responsible and contributing citizen and employee.
CRP2. Apply appropriate academic and technical skills.
CRP3. Attend to personal health and financial well-being.
CRP4. Communicate clearly and effectively and with reason.
CRP5. Consider the environmental, social and economic impacts of decisions.
CRP6. Demonstrate creativity and innovation.
CRP7. Employ valid and reliable research strategies.
CRP8. Utilize critical thinking to make sense of problems and persevere in solving them.
CRP9. Model integrity, ethical leadership and effective management.
CRP10. Plan education and career paths aligned to personal goals.
CRP11. Use technology to enhance productivity.
CRP12. Work productively in teams while using cultural global competence.

Integrated Accommodations and Modifications
Special Education
– Printed copy of board work/notes provided
– Additional time for skill mastery
– Assistive technology
– Behavior management plan
– Center-Based Instruction
– Check work frequently for understanding
– Computer or electronic device utilization
– Extended time on tests/ quizzes
– Have student repeat directions to check for understanding
– Highlighted text visual presentation
– Modified assignment format
– Modified test content
– Modified test format
– Modified test length
– Multiple test sessions
– Multi-sensory presentation
– Preferential seating
– Preview of content, concepts, and vocabulary
– Reduced/shortened written assignments
– Secure attention before giving instruction/directions
– Shortened assignments
– Student working with an assigned partner
– Teacher initiated weekly assignment sheet
– Use open book, study guides, test prototypes
– Cubing activities
– Exploration by interest
– Flexible grouping
– Goal setting with students
– Jigsaw
– Mini workshops to re-teach or extend skills Open-ended activities
– Think-Pair-Share
– Varied supplemental materials

ELL
– Allowing students to correct errors (looking for understanding)
– Teaching key aspects of a topic Eliminate nonessential information Using videos, illustrations, pictures, and drawings to explain or clarify
– allowing products (projects, timelines, demonstrations, models, drawings, dioramas, poster boards, charts, graphs, slideshows, videos, etc.) to demonstrate student's learning
– Allowing students to correct errors (looking for understanding)
– Allowing the use of note cards or open-book during testing
– Decreasing the amount of work presented or required
– Having peers take notes or providing a copy of the teacher's notes
– Modifying tests to reflect selected objectives
– Providing study guides
– Reducing the number of answer choices on a multiple choice test
– Tutoring by peers
– Explain/clarify key vocabulary terms

At Risk
– Allowing students to correct errors (looking for understanding)
– Teaching key aspects of a topic Eliminate nonessential information allowing products (projects, timelines, demonstrations, models, drawings, dioramas, poster boards, charts, graphs, slideshows, videos, etc.) to demonstrate student's learning
– Allowing students to select from given choices .
– Allowing the use of note cards or open-book during testing
– Collaborating (general education teacher and specialist) to modify vocabulary, omit or modify items to reflect objectives for the student, eliminate sections of the test, and determine how the grade will be determined prior to giving the test
– decreasing the amount of work presented or required .
– Having peers take notes or providing a copy of the teacher's notes
– Marking students' correct and acceptable work, not the mistakes
– Modifying tests to reflect selected objectives
– Providing study guides
– Reducing the number of answer choices on a multiple choice test
– Tutoring by peers
– Using authentic assessments with real-life problem-solving
– Using true/false, matching, or fill in the blank tests in lieu of essay tests
– using videos, illustrations, pictures, and drawings to explain or clarify
– Flexible grouping
– Goal setting with students
– Jigsaw
– Mini workshops to re-teach or extend skills Open-ended activities
– Think-Pair-Share
– Varied supplemental materials

Gifted and Talented
– Alternative formative and summative assessments
– Choice boards
– Games and tournaments
– Group investigations
– Independent research and projects Interest groups for real world application
– Learning contracts

– Leveled rubrics
– Multiple intelligence options
– Personal agendas
– Project-based learning
– Problem-based learning
– Stations/centers
– Think-Tac-Toes
– Tiered activities/assignments
– Tiered products

<u>504</u>
– Printed copy of board work/notes provided
– Additional time for skill mastery
– Assistive technology
– Behavior management plan
– Center-Based Instruction
– Check work frequently for understanding
– Computer or electronic device utilization
– Extended time on tests/ quizzes
– Have stude
– nt repeat directions to check for understanding
– Highlighted text visual presentation
– Modified assignment format
– Modified test content
– Modified test format
– Modified test length
– Multiple test sessions
– Multi-sensory presentation
– Preferential seating
– Preview of content, concepts, and vocabulary
– Reduced/shortened written assignments
– Secure attention before giving instruction/directions
– Shortened assignments
– Student working with an assigned partner
– Seacher initiated weekly assignment sheet
– Use open book, study guides, test prototype
– Exploration by interest
– Flexible grouping
– Goal setting with students
– Mini workshops to re-teach or extend skills Open-ended activities
– Think-Pair-Share
– Varied supplemental materials

Belvidere Cluster Wide Mathematics Curriculum Grade 2 Unit Plan # 1	

Title: Facts

Grade Level: 2	Approximate Time: 6 weeks

Unit Summary: This unit will support an understanding of addition to develop quick recall of basic addition facts and related subtraction facts. Building a deep understanding of the relationship between the numbers in addition and subtraction problems (mainly through an exploration of whole and parts), fact strategies, and repeated practice for memorization will assist to increase students' math fact fluency.

Learning Targets

PARCC ■ **Major Clusters;** ◻ **Supporting Clusters;** ◻ **Additional Clusters**

Domain: Number and Operation in Base Ten

Cluster: Use place value understanding and properties of operation to add and subtract.

Standard Number	Standard
2.NBT.9	Explain why addition and subtraction strategies work, using place value and properties of operations.

Domain: Operations in Algebraic Thinking

Cluster: Add and subtract within 20.

Standard Number	Standard
2.OA.2	Fluently add and subtract within 20 using mental strategies (See Standard 1.OA.6 for list of strategies). By end of 2nd grade, know from memory all sums of two one-digit numbers.

Unit Essential Question: ● How do the addition and subtraction strategies support fact fluency?	**Unit Enduring Understandings:** ● Fact strategies will support understanding of math facts. ● Using drawings and objects will demonstrate how addition and subtraction strategies work.

Unit Objectives:
- Students will be able to add fluently within 20.
- Students will be able to subtract fluently within 20.
- Students will be able to use strategies to solve addition and subtraction problems. (See 1.OA.6 for list of mental strategies).

Evidence of Learning

Possible Formative Assessments:
- SMART Response questions used throughout the unit.
- Quizzes
- Homework
- Classwork

Summative Assessment:
- Unit Test

Possible Benchmark Assessments:
- Go Math Benchmark
- Unit Assessment

Possible Alternative Assessments:
- Choice boards - projects

- Skit
- Demonstration
- Journaling
- Conferencing

Suggested Lesson Plans	
Topics	**Approximate Timeframe (days)**
Topic #0: Recalling Facts from Memory** **Inclusive Topic – Complete activities as needed within the unit	2** (Teacher will need to embed activities in daily, so extra days are given to compensate in case other lessons take longer)
Topic #1: Defining and Identifying Whole and Parts	1 day
Topic #2: Relationship of Whole to Parts: Addition	1 day
Topic #3: Addition Strategies	2 days
Topic #4: Making Tens **Possible Quiz 1**	2 ½ days
Topic #5: Doubles Facts	1 day
Topic #6: Doubles Plus One	1 day
Topic #7: Doubles Minus One Lab: RAFT – Add It Up **Possible Quiz 2**	2 day
Topic #8: Adding 3 Numbers **Possible Quiz 3**	2 ½ days
Topic #9: Relationship of Whole to Parts: Subtraction	1 day
Topic #10: Subtraction Strategies **Possible Quiz 4**	2 days
Topic #11: Adding & Subtracting Zeros	1 day
Topic #12: Fact Families **Possible Quiz 5**	3 days
Topic #13: Number Stories -Part/Part Whole -Comparison Word Problems -Change to More Number Stories **Possible Quiz 6**	3 days
Topic #14: Review and Unit Test **Possible Quiz 7 (Fact Fluency)**	2 days
Curriculum Resources	

- https://njctl.org/courses/math/2nd-grade/facts/
- http://www.raftbayarea.org/ideas/Add%20It%20Up.pdf
- http://www.raftbayarea.org/ideas/Peek-a-Boo.pdf
- Approved Classroom Textbooks

Internet Games:
ADDITION:
Block Busters:
https://www-k6.thinkcentral.com/content/hsp/math/hspmath/ca/common/mega_math_9780153663963_/megamat hcd1/cm/launch.html?strActivityName=g13_1_1_A&strAssignID=1

Counting Critters:
https://www-k6.thinkcentral.com/content/hsp/math/hspmath/ca/common/mega_math_9780153663963_/megamat
hcd1/cm/launch.html?strActivityName=g13_1_2_G&strAssignID=1

Carnival Stories:
https://www-k6.thinkcentral.com/content/hsp/math/hspmath/ca/common/mega_math_9780153663963_/megamat
hcd3/cm/launch.html?strActivityName=g13_3_1_A&strAssignID=1

Alien Addition: http://www.arcademicskillbuilders.com/games/alien/alien.html

Cross Town Number Line:
https://www-k6.thinkcentral.com/content/hsp/math/hspmath/ca/common/mega_math_9780153663963_/megamat
hcd3/cm/launch.html?strActivityName=g13_3_3_F&strAssignID=1

How Many Under the Shell?: http://illuminations.nctm.org/Activity.aspx?id=3566

Jet Ski Addition: http://www.abcya.com/jet_ski_addition.htm

Marble Addition: http://www.abcya.com/addition.htm

Mummy Addition: http://www.ictgames.com/funkymum.html

Penguin Addition:http://www.sheppardsoftware.com/mathgames/popup/popup_addition.htm

Sum Sense Timed Addition: http://resources.oswego.org/games/SumSense/sumadd.html

SUBTRACTION:
Balloon Pop Subtraction: http://www.abcya.com/subtraction_game.htm

Pet Shop Subtraction: http://www.fun4thebrain.com/subtraction/subpunypets.html

Rabbit Subtraction: http://www.rabbittakeaway.co.uk/activity/

Sum Sense Timed Subtraction: http://resources.oswego.org/games/SumSense/sumsub.html

Subtracting with Cubes:
https://www-k6.thinkcentral.com/content/hsp/math/hspmath/ca/common/mega_math_9780153663963_/megamat
hcd1/cm/launch.html?strActivityName=g13_1_1_B&strAssignID=1

Subtraction Facts to 10:
https://www-k6.thinkcentral.com/content/hsp/math/hspmath/ca/common/mega_math_9780153663963_/megamat
hcd1/cm/launch.html?strActivityName=g13_1_2_H&strAssignID=1

Subtraction Patterns:
https://www-k6.thinkcentral.com/content/hsp/math/hspmath/ca/common/mega_math_9780153663963_/megamat
hcd1/cm/launch.html?strActivityName=g13_1_1_D&strAssignID=1

Subtraction Stories to 10:
https://www-k6.thinkcentral.com/content/hsp/math/hspmath/ca/common/mega_math_9780153663963_/megamat
hcd3/cm/launch.html?strActivityName=g13_3_1_B&strAssignID=1

Vertical Subtraction facts to 10:
https://www-k6.thinkcentral.com/content/hsp/math/hspmath/ca/common/mega_math_9780153663963_/megamat
hcd1/cm/launch.html?strActivityName=g13_1_1_F&strAssignID=1

Lesson Components

21ˢᵗ Century Skills
- Financial, Economic, Business, and Entrepreneurial Literacy

21ˢᵗ Century Themes
- Critical Thinking and Problem Solving
- Communication and Collaboration
- Life and Career Skills

Belvidere Cluster Wide
Mathematics Curriculum
Grade 2
Unit # 2

Title: Place Value	
Grade Level: 2	**Approximate Time:** 4 weeks

Unit Summary: Place value provides the conceptual foundation for all aspects of whole-numbers for computation. The ordering of numbers and computational flexibility will help students address real world situations.

Learning Targets
PARCC ■ **Major Clusters;** ☐ **Supporting Clusters;** ◯ **Additional Clusters**

Domain: Number and Operation in Base Ten

Cluster: Understand Place Value

Standard Number	**Standard**
2.NBT.1	Understand that the three digits of a three-digit number represent amounts of hundreds, tens, and 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, ten, and ones digits, using >, =, and < symbols to record the results of comparisons.

Domain: Standards for Math Practice

Standard Number	**Standard**
MP1	Making sense of problems and persevere in solving them.
MP2	Reason abstractly and quantitatively.
MP3	Construct viable arguments and critique the reasoning of others.
MP4	Model with mathematics.
MP5	Use appropriate tools strategically.
MP6	Attend to precision.
MP7	Look for and make use of structure.
MP8	Look for and express regularity in repeated reasoning.

Unit Essential Questions:	**Unit Enduring Understandings:**
· What value is represented by each digit in any number (up to 1000)? · What strategies can be used to count within 1,000 (e.g. skip count 5s, 10s, 100s)? (skip counting is an effective strategy) · How can you show the value of a number in different ways? · How do you compare numbers within 1,000?	· The position of a digit in a number is used to determine its value and compare numbers. · Skip counting is an effective means of counting large numbers of items. · There are a variety of ways to group and represent numbers.

Unit Objectives:
- Students will understand that the 3 digits in a three-digit number represent the amounts of hundreds, tens, and ones.
- Students will be able to count within 1000 and skip count by 5s, 10s, and 100s.
- Students will be able to read and write numbers to 1000 using base ten numerals, number names, and expanded form.
- Students will be able to compare two 3 digit numbers using <.>. and = symbols and record the results of the comparisons.

Evidence of Learning

Possible Formative Assessment:
- SMART Response questions used throughout the unit.
- Quizzes
- Classwork
- Homework

Summative Assessments:
- Unit Test

Possible Benchmark Assessments:
- Go Math Benchmark
- Unit Assessment

Possible Alternative Assessments:
- Choice boards - projects
- Skit
- Demonstration
- Journaling
- Conferencing

Suggested Lesson Plan

Topics	Approximate Timeframe
Topic #1:Digits and Units Defined Lab: Let's Count!	2 days
Topic #2 Making Models of Two Digit Numbers Lab: Abacus Primer	2 days
Topic #3 Writing Numbers in Expanded Form **Possible Quiz 1**	2 ½ days
Topic #4 Reading & Writing Numbers in Different Forms	1 day
Topic #5 Drawing Models of Numbers **Possible Quiz 2**	1 ½ days
Topic #6 Counting Within 1000	1 day
Topic #7: Skip Counting by 5s	1 day
Topic #8: Skip Counting by 10s	1 day
Topic #9: Advanced Skip Counting by 10s	1 day
Topic #10: Skip Counting by 100's	1 day
Topic #11 Practicing Counting Within 1000	1 day
Topic #12: Modeling Word Problems **Possible Quiz 3**	1 ½ days
Topic #13: Comparing Numbers Lab: Give and Take **Possible Quiz 4**	2 days
Topic #14: Review and Unit Test	2 days

Curriculum Resources
•   https://njctl.org/courses/math/2nd-grade/place-value/
•   http://www.raftbayarea.org/ideas/Abacus%20Variations.pdf
•   Approved Classroom Textbooks
Lesson Components

21st Century Skills
- Financial, Economic, Business, and Entrepreneurial Literacy

21st Century Themes
- Critical Thinking and Problem Solving
- Communication and Collaboration
- Life and Career Skills

Belvidere Cluster Wide
Mathematics Curriculum

<table>
<tr><td colspan="2" align="center">**Belvidere Cluster Wide**
Mathematics Curriculum
Grade 2
Unit # 3</td></tr>
<tr><td colspan="2">**Title:** 2 digit Addition and Subtraction</td></tr>
<tr><td>**Grade Level:** 2</td><td>**Approximate Time:** 6 weeks</td></tr>
<tr><td colspan="2">**Unit Summary:** This unit will support an understanding of the relationship between numbers and how numbers influence decisions in everyday life.</td></tr>
<tr><td colspan="2" align="center">**Learning Targets**</td></tr>
<tr><td colspan="2" align="center">**PARCC** ■ **Major Clusters;** ◻ **Supporting Clusters;** ○ **Additional Clusters**</td></tr>
<tr><td colspan="2">**Domain:** Number and Operation in Base Ten</td></tr>
<tr><td colspan="2">**Cluster:** Use place value understanding and properties of operation to add and subtract.</td></tr>
<tr><td align="center">**Standard Number**</td><td align="center">**Standard**</td></tr>
<tr><td align="center">2.NBT.5</td><td>Fluently add and subtract within 100 using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction.</td></tr>
<tr><td align="center">2.NBT.6</td><td>Add up to four two-digit numbers using strategies based on place value and properties of operations.</td></tr>
<tr><td align="center">2.NBT.8</td><td>Mentally add 10 or 100 to a given number 100-900, and mentally subtract 10 or 100 from a given number, 100-900.</td></tr>
<tr><td colspan="2">**Domain:** Operations in Algebraic Thinking</td></tr>
<tr><td colspan="2">**Cluster:** Represent and solve problems involving addition and subtractions.</td></tr>
<tr><td align="center">**Standard Number**</td><td align="center">**Standard**</td></tr>
<tr><td align="center">2.OA.1</td><td>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.</td></tr>
<tr><td colspan="2">**Domain:** Standards for Math Practice</td></tr>
<tr><td align="center">**Standard Number**</td><td align="center">**Standard**</td></tr>
<tr><td align="center">MP1</td><td>Making sense of problems and persevere in solving them.</td></tr>
<tr><td align="center">MP2</td><td>Reason abstractly and quantitatively.</td></tr>
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<tr><td align="center">MP4</td><td>Model with mathematics.</td></tr>
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<tr><td align="center">MP6</td><td>Attend to precision.</td></tr>
<tr><td align="center">MP7</td><td>Look for and make use of structure.</td></tr>
<tr><td align="center">MP8</td><td>Look for and express regularity in repeated reasoning.</td></tr>
<tr><td>**Unit Essential Questions:**
● How do addition and subtraction affect numbers?
● How do addition and subtraction strategies (place value, properties of operations, and fact families) help you to solve a variety of problems?</td><td>**Unit Enduring Understandings:**
● A decrease in value is representative of subtraction.
● An increase in value is representative of addition.
● Concrete models and drawings facilitate addition and subtraction.
● Place value assists addition and subtraction.
● Word problems can be multi-steps and involve more than one operation.</td></tr>
</table>

Unit Objectives:
- Students will be able to add within 100 using a variety of strategies.
- Students will be able to subtract within 100 using a variety of strategies.
- Students will be able to add up to 4 two-digit numbers.
- Students will be able to mentally add and subtract 10 or 100 to a number 100 to 900.
- Students will be able to complete one-and-two-step addition and subtraction word problems with missing variables beginning, middle, and end.

Evidence of Learning

Possible Formative Assessments:
- SMART Response questions used throughout the unit.
- Quizzes
- Classwork
- Homework

Summative Assessment:
- Unit Test

Possible Benchmark Assessments:
- Go Math Benchmark
- Unit Assessment

Possible Alternative Assessments:
- Choice boards - projects
- Skit
- Demonstration
- Journaling
- Conferencing

Suggested Lesson Plan	
Topics	**Apporximate Timeframe**
Topic #1: Mentally Adding 10	1 day
Topic #2: Subtracting 10	1 day
Topic #3: Review Adding and Subtracting 10	1 day
Topic #4: Adding and Subtracting 100	1 day
Topic #5: Review All Lab: RAFT – Carpet Square Math **Possible Quiz #1**	2 days
Topic #6: 2 digit Addition with Number Grid	1 day
Topic #7: 2 Digit Addition with Base 10 Blocks	1 day
Topic #8: 2 Digit Addition	1 day
Topic #9: Problem Solving with Addition **Possible Quiz #2**	1 ½ days
Topic #10: 2 Digit Addition with Regrouping Part 1	1 day
Topic #11: 2 Digit Addition with Regrouping Part 2 Lab: RAFT – Bottle Bowling	1 ½ days
Topic #12: Problem Solving with Addition	1 day
Topic #13: Addition into Hundreds with Regrouping	1 day
Topic #14: Two Digit Addition Review **Possible Quiz #3**	1 ½ days
Topic #15: Adding 3 and 4, 2-Digit Addition	1 day

Topic #16: More 3 and 4, 2 Digit Addition Lab: RAFT - 31 **Possible Quiz #4**	1 ½ days
Topic #17: 2 Digit Subtraction Without Regrouping	1 days
Topic #18: 2 Digit Word Problems Without Regrouping **Possible Quiz #5**	1 ½ days
Topic #19: Regrouping with Base-ten Blocks	1 day
Topic #20: Regrouping Without Blocks	1 day
Topic #21: Subtraction Word problems with Regrouping	1 day
Topic #22: Mixed subtraction practice **Possible Quiz #6**	1 ½ days
Topic #23: Mixed Practice Lab: RAFT - Give and Take	2 days

Curriculum Development Resources

- https://njctl.org/courses/math/2nd-grade/2-digit-addition-subtraction/
- http://www.raftbayarea.org/ideas/31.pdf
- http://www.raftbayarea.org/ideas/Bottle%20Bowling.pdf
- http://www.raftbayarea.org/ideas/Carpet%20Square%20Math.pdf
- http://www.raftbayarea.org/ideas/Give%20and%20Take.pdf
- Approved Classroom Textbooks

Lesson Components

21st Century Skills

- Financial, Economic, Business, and Entrepreneurial Literacy

21st Century Themes

- Critical Thinking and Problem Solving
- Communication and Collaboration
- Life and Career Skills

Belvidere Cluster Wide
Belvidere Cluster Wide   **Mathematics Curriculum**   **Grade 2**   **Unit # 4**

Title: Length

Grade Level: 2	**Approximate Time:** 5 weeks

Unit Summary: Measurement helps describe our world using numbers. An understanding of common measurement units and tools is critical for application to real-world situations.

Learning Targets
Learning Targets
PARCC ■ **Major Clusters;** ☐ **Supporting Clusters;** ○ **Additional Clusters**

Domain: Measurement and Data

Cluster: Measure and estimate lengths in standard units.

Standard Number	Standard
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 length 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 standard length unit.

Domain: Measurement and Data

Cluster: Relate addition and subtraction to length

Standard Number	Standard
2.MD.5	Use addition and subtraction within 100 to solve word problems involving lengths that are given in the same units.
2.MD.6	Represent whole numbers as lengths from 0 on a number line diagram with equally spaced points corresponding to the numbers 0, 1, 2… and represent whole numbers sums and difference within 100 on a number line diagram.

Domain: Measurement and Data

Cluster: Represent and interpret data

Standard Number	Standard
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.

Domain: Standards for Math Practice

Standard Number	Standard
MP1	Making sense of problems and persevere in solving them.
MP2	Reason abstractly and quantitatively.
MP3	Construct viable arguments and critique the reasoning of others.
MP4	Model with mathematics.
MP5	Use appropriate tools strategically.
MP6	Attend to precision.
MP7	Look for and make use of structure.
MP8	Look for and express regularity in repeated reasoning.

Unit Essential Question:	Unit Enduring Understanding:
● How can measurements be used to solve problems?	• The tool used to measure length depends upon what is being measured. • Measurements can be used to describe, estimate, and compare objects.

Unit Objectives:
- Students will select and use an appropriate tool to measure the length of an object (i.e. ruler, yardstick, meter stick, and measuring tape).
- Students will be able to measure an object using two different units of length and describe how they relate.
- Students will estimate the length of objects (i.e. inches, feet, centimeters, and meters).
- Students will measure to compare one object to another.
- Students will solve word problems using length within 100.
- Students will use a number line to show addition and subtraction of lengths.
- Students will represent the length of objects on a line plot.

Evidence of Learning

Possible Formative Assessments:
SMART Response questions used throughout the unit.
Quizzes
Homework
Classwork

Summative Assessment:
Unit Test

Possible Benchmark Assessments:
- Go Math Benchmark
- Unit Assessment

Possible Alternative Assessments:
- Choice boards - projects
- Skit
- Demonstration
- Journaling
- Conferencing

Lesson Plan

Topics	Approximate Timeframe
Topic #1: Introduction to Length	1 day
Topic #2: Measuring with a Ruler	1 day
Topic #3: Measuring in Inches	1 day
Topic #4: Measuring in Feet	1 day
Topic #1: Measuring in Yards **Possible Quiz 1**	1 ½ days
Topic #5: Measuring in Centimeters RAFT Lab 1: Centimeter Sam	1 ½ days
Topic #6: Measuring in Meters	1 day
Topic #7: Using a Tape Measure	1 day
Topic #8: Which Unit? Which Tool? **Possible Quiz 2**	1 ½ days
Topic #9: Length Comparison RAFT Lab 2: Lord of the Ring Toss	1 ½ days
Topic #10: Measuring in Different Units	1 day
Topic #11: Estimating in Inches and Feet	1 day

Topic #12: Estimating in Centimeters and Meters RAFT Lab 3: Packing Peanut Punt **Possible Quiz 3**	2 days
Topic #13: Number Line as a Ruler	1 day
Topic #14: Number Stories on a Number Line	1 day
Topic #15: Line Plots	1 day
Topic #16: Line Plots pt. 2 **Possible Quiz 4**	1 ½ days
Review and Unit Test	2 days

Curriculum Resources

- https://njctl.org/courses/math/2nd-grade/length/
- http://www.raftbayarea.org/ideas/Packing%20Peanut%20Punt.pdf
- http://www.raftbayarea.org/ideas/Centimeter%20Sam.pdf
- http://www.raftbayarea.org/ideas/Lord%20of%20the%20Ring%20Toss.pdf
- Approved Classroom Textbooks

Lesson Components

21st Century Skills

- Financial, Economic, Business, and Entrepreneurial Literacy

21st Century Themes

- Critical Thinking and Problem Solving
- Communication and Collaboration
- Life and Career Skills

<table>
<tr><td colspan="2" align="center">Belvidere Cluster Wide
Mathematics Curriculum
Grade 2
Unit # 5</td></tr>
</table>

Title: Three Digit Addition and Subtraction

Grade Level: 2	Approximate Time: 2 weeks

Unit Summary: Students will use their prior knowledge of adding and subtracting one and two digit numbers to solve three digit addition and subtraction. They will learn to line up the three digits and then solve the smaller addition and subtraction problems in the ones, then the tens and last the hundreds. They will also learn how to regroup numbers to add or subtract accurately.

<table>
<tr><td align="center">Learning Targets</td></tr>
<tr><td align="center">PARCC ■ Major Clusters; ▫ Supporting Clusters; ○ Additional Clusters</td></tr>
</table>

Domain: Operations in Algebraic Thinking

Cluster: Represent and solve problems involving addition and subtractions.

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

Domain: Number and Operation in Base Ten

Cluster: Use place value understanding and properties of operation to add and subtract.

Standard Number	Standards
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.

Domain: Standards for Math Practice

Standard Number	Standard
MP1	Making sense of problems and persevere in solving them.
MP2	Reason abstractly and quantitatively.
MP3	Construct viable arguments and critique the reasoning of others.
MP4	Model with mathematics.
MP5	Use appropriate tools strategically.
MP6	Attend to precision.
MP7	Look for and make use of structure.
MP8	Look for and express regularity in repeated reasoning.

Unit Essential Questions:	Unit Enduring Understanding:
● What strategies can we use to add or subtract three digit numbers? ● How do we know when to ungroup hundreds and tens to subtract?	• Sometimes you need to regroup to subtract or add. • Place value can help us add or subtract. • There are patterns in numbers that allow us to easily add and subtract 100 or multiples of 100.

● Why do we have to carry numbers when adding? ● What steps do we follow when adding or subtracting three digit numbers?	• When adding or subtracting three digit numbers you start with the ones, then the tens and finally the hundreds.

Unit Objectives:
- Students will be able to mentally add or subtract 100 and multiples of 100 from a three digit number.
- Students will be able to regroup ones and tens to add three digit numbers.
- Students will be able to regroup numbers in the hundreds and tens to subtract three digit numbers.
- Students will be able to subtract numbers with 0 in the top number.
- Students will be able to solve word problems involving two three digit numbers.
- Students will be able to correctly line of two three digit numbers to add or subtract.

Evidence of Learning

Possible Formative Assessments:
SMART Response questions used throughout the unit.
Quizzes
Classwork
Homework

Summative Assessment:
Unit Assessment

Possible Benchmark Assessments:
- Go Math Benchmark
- Unit Assessment

Possible Alternative Assessments:
- Choice boards - projects
- Skit
- Demonstration
- Journaling
- Conferencing

Suggested Lesson Plan	
Topics	**Approximate Timeframe**
Topic #1: Introduction to Three Digit Addition	1 day
Topic #2: Regrouping Ones	1 day
Topic #3: Regrouping Ones and Tens Lab: Dice Addition	1 ½ days
Topic #4: Regrouping One and Tens Pt. 2 Lab: 1000 Wins **Possible Quiz 1**	2 days
Topic #5: Introduction to Three Digit Subtraction	1 day
Topic #6: Borrowing from the Tens	1 day
Topic #7: Borrowing from the Tens and Hundreds	1 day
Topic #8: Subtracting Across the Zero **Possible Quiz 2**	1 ½ day
Topic #9: Three Digit Addition and Subtraction Word Problems **Possible Quiz 3**	1 ½ day
Curriculum Resources	

- https://njctl.org/courses/math/2nd-grade/three-digit-addition-subtraction/
- http://www.raftbayarea.org/ideas/1000%20Wins.pdf
- Approved Classroom Textbooks

Lesson Components
21st Century Skills ● Financial, Economic, Business, and Entrepreneurial Literacy **21st Century Themes** ● Critical Thinking and Problem Solving ● Communication and Collaboration ● Life and Career Skills

Belvidere Cluster Wide
Mathematics Curriculum
Grade 2
Unit # 6

Title: Time

Grade Level: 2	**Approximate Time:** 2 weeks

Unit Summary: This unit will continue to build on the time skills that the students developed in first grade. They will extend their knowledge of time to the quarter hour and the 5 minute interval. In addition, they will learn the difference between a.m. and p.m..

Learning Targets
PARCC ■ **Major Clusters;** ◻ **Supporting Clusters;** ◯ **Additional Clusters**

Domain: Measurement and Data

Cluster: Work with time and money

Standard #	**Standard**
2.MD.7	Tell and write time from analog and digital clocks to the nearest five minutes, using a.m. and p.m.

Domain: Standards for Math Practice

Standard #	**Standard**
MP1	Making sense of problems and persevere in solving them.
MP2	Reason abstractly and quantitatively.
MP3	Construct viable arguments and critique the reasoning of others.
MP4	Model with mathematics.
MP5	Use appropriate tools strategically.
MP6	Attend to precision.
MP7	Look for and make use of structure.
MP8	Look for and express regularity in repeated reasoning.

Unit Essential Questions:	**Unit Enduring Understandings:**
● How does knowledge of time support your daily life? ● How can you tell time to the nearest hour, half hour, quarter hour and 5 minute interval? ● What is the difference between A.M. and P.M.?	● Time is essential to making daily decisions. ● A.M. is used to describe time between 12 midnight and noon. ● P.M. is used to describe time between noon and 12 midnight. ● We count by 5 as the minute hand moves around the clock.

Unit Objectives:
- Students will tell and write time to the nearest half hour and hour (i.e. am/pm, digital, and analog).
- Students will tell and write time to the nearest quarter hour (i.e. am/pm, digital, and analog).
- Students will tell and write time to the nearest 5 minute interval (i.e. am/pm, digital, and analog).
- Students will use A.M. and P.M. when telling and writing time.

Evidence of Learning

Possible Formative Assessments:
- SMART Response questions used throughout the unit.
- Quizzes
- Classwork
- Homework

Summative Assessment:
- Unit Test

Possible Benchmark Assessments:
- Go Math Benchmark
- Unit Assessment

Possible Alternative Assessments:
- Choice boards - projects
- Skit
- Demonstration
- Journaling
- Conferencing

Suggested Lesson Plan

Topics	Approximate Timeframe
Topic #1: The Clock and Hour	1 day
Topic # 2: Half Hour	1 day
Topic #3: Quarter-past Lab: Time to the Quarter Hour Memory	2 days
Topic #4: Quarter-to	1 days
Topic #5: 5 Minute Interval Lab – My Book of Important Times	2 days
Review & Unit Test	2 days

Curriculum Resources

- **https://njctl.org/courses/math/2nd-grade/time/**
- Approved Classroom Textbooks

Lesson Components

21st Century Skills
- Financial, Economic, Business, and Entrepreneurial Literacy

21st Century Themes
- Critical Thinking and Problem Solving
- Communication and Collaboration
- Life and Career Skills

Belvidere Cluster Wide
Mathematics Curriculum
Grade 2
Unit # 7

Title: Money

Grade Level: 2	**Approximate Time:** 2 weeks

Unit Summary: The value of money and how to calculate money are important everyday life skills. This unit will introduce students to the different coins and bills. In addition, the students will develop the skills necessary to add and subtract money.

Learning Targets
PARCC 🟩 **Major Clusters;** 🟦 **Supporting Clusters;** 🟡 **Additional Clusters**

Domain: Measurement and Data

Cluster: Work with time and money

Standard Number	Standard
2.MD.8	Solve word problems involving dollar bills, quarters, dimes, nickels, and pennies, using $ and ¢ symbols appropriately.

Domain: Standards for Math Practice

Standard Number	Standard
MP1	Making sense of problems and persevere in solving them.
MP2	Reason abstractly and quantitatively.
MP3	Construct viable arguments and critique the reasoning of others.
MP4	Model with mathematics.
MP5	Use appropriate tools strategically.
MP6	Attend to precision.
MP7	Look for and make use of structure.
MP8	Look for and express regularity in repeated reasoning.

Unit Essential Questions:	**Unit Enduring Understandings:**
● How does an understanding of the value of money solve problems?	● Knowing the value of coins and dollars will help in real world situations.

Unit Objectives:
- Students will identify coins by their attributes.
- Students will skip count to find the value of pennies, nickels, dimes and quarter.
- Students will skip count to find the value of $1, $5, and $10 bills.
- Students will solve word problems using coins and dollar bills.

Evidence of Learning

Possible Formative Assessments:
- SMART Response questions used throughout the unit.
- Quizzes
- Homework
- Classwork

Summative Assessment:
- Unit Test

Possible Benchmark Assessments:
- Go Math Benchmark
- Unit Assessment

Possible Alternative Assessments:

- Choice boards - projects
- Skit
- Demonstration
- Journaling
- Conferencing

Suggested Lesson Plan	
Topics	**Approximate Timeframe**
Topic #1: Pennies and Nickels	1 day
Topic # 2: Dimes with Pennies and Nickels	1 day
Topic #3: Quarters	1 day
Topic #4: Mixed Coins	2 days
Topic #5: Equivalent Coins	1 day
Topic #6: Word Problems with Mixed Coins Lab: Produce Stand **Possible Quiz #1**	2 days
Topic #7: Bills	1 day
Topic #8: Words Problems with Bills **Possible Quiz #2**	1 day
Review & Unit Test	2 days

Curriculum Resources
● https://njctl.org/courses/math/2nd-grade/money/   ● http://www.raftbayarea.org/ideas/Produce%20Stand.pdf   ● Approved Classroom Textbooks

Lesson Components

21st Century Skills

- Financial, Economic, Business, and Entrepreneurial Literacy

21st Century Themes

- Critical Thinking and Problem Solving
- Communication and Collaboration
- Life and Career Skills

Title: Geometry	

Grade Level: 2	**Approximate of Time:** 4 weeks

Unit Summary: All students will develop spatial sense and the ability to use geometric properties and relationships to solve problems and make sense of the world around them.

Learning Targets
PARCC ■ **Major Clusters;** ▢ **Supporting Clusters;** ◯ **Additional Clusters**

Domain: Geometry

Cluster: Reason with shapes and their attributes.

Standard Number	Standard
2.G.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	Partition a rectangle into rows and columns of same-size squares and count to find the total number of them.
2.G.3	Partition circles and rectangles into two, three, or four equal shares, describe the shares using the words halves, thirds, half of, and a third of, etc., and describe the whole as two halves, three thirds, four fourths. Recognize the equal shares of identical wholes need not have the same shape.

Domain: Operations and Algebraic Thinking

Cluster: Work with equal groups of objects to gain foundation for multiplication.

Standard Number	Standard
2.OA.4	Use addition to find the total number of objects arranged in rectangular arrays with up to five rows and up to five columns; write an equation to express the total as a sum of equal addends.

Domain: Standards for Math Practice

Standard Number	Standard
MP1	Making sense of problems and persevere in solving them.
MP2	Reason abstractly and quantitatively.
MP3	Construct viable arguments and critique the reasoning of others.
MP4	Model with mathematics.
MP5	Use appropriate tools strategically.
MP6	Attend to precision.
MP7	Look for and make use of structure.
MP8	Look for and express regularity in repeated reasoning.

Unit Essential Questions:	**Unit Enduring Understandings:**
● How are geometric properties used to solve problems in everyday life? ● What is the relationship between addition and multiplication?	● Objects can be described and compared using their geometric attributes. ● Repeated addition is a foundation for multiplication.

Unit Objectives:
- Students will identify triangles, quadrilaterals, pentagons, hexagons, and cubes.
- Students will recognize and draw shapes based on number of angles or faces.

- Students will divide a rectangle into rows and columns. (i.e. area)
- Students will divide circles and rectangles into two, three, and four equal shares. (i.e. fractions)
- Students will use rectangular arrays to express addition sums. (within 25)

Evidence of Learning

Possible Formative Assessments:
- SMART Response questions used throughout the unit.
- Quizzes
- Homework
- Classwork

Summative Assessment:
- Unit Test

Possible Benchmark Assessments:
- Go Math Benchmark
- Unit Assessment

Possible Alternative Assessments:
- Choice boards - projects
- Skit
- Demonstration
- Journaling
- Conferencing

Suggested Lesson Plans

Topics	Approximate Timeframe
Topic #1: 2D Shapes Lab: 2D Shapes Lab	2 days
Topic #2: 3D Shapes Lab: 3D Shapes Lab	2 days
Topic #3: Drawing shapes based on angles and faces **Possible Quiz #1**	1 day
Topic #4: Pattern Blocks Lab: Going Geodesic with Triangles	1 day
Topic #5: Divide a rectangle into rows and columns; find total	2 days
Topic #6: Divide circles and rectangles into halves, thirds, and fourths **Possible Quiz #2**	4 days
Topic #7: Use addition to find the sums of objects in rectangular arrays **Possible Quiz #3**	4 days
Review & Unit Test	2 days

Curriculum Resources

- https://njctl.org/courses/math/2nd-grade/geometry/
- http://www.raftbayarea.org/ideas/Going%20Geodesic%20with%20Triangles.pdf
- Approved Classroom Textbooks

Lesson Components

21st Century Skills
- Financial, Economic, Business, and Entrepreneurial Literacy

21st Century Themes
- Critical Thinking and Problem Solving
- Communication and Collaboration
- Life and Career Skills

| Belvidere Cluster Wide |
| Mathematics Curriculum |
| Grade 2 |
| Unit Plan # 9 |

Title: Data

| **Grade Level:** 2 | **Approximate Time:** 4 weeks |

Unit Summary: All students will develop an understanding of the concepts and techniques of data analysis by modeling a variety of real world situations, drawing appropriate inferences, making informed decisions, and justifying those decisions.

| Learning Targets |
| PARCC ■ Major Clusters; □ Supporting Clusters; ○ Additional Clusters |

Domain: Measurement and Data

Cluster: Represent and Interpret data.

Standard #:	Standard:
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 problems using information presented in a bar graph.

Domain: Number and Operation in Base Ten

Cluster: Use place value understanding and properties of operation to add and subtract.

Standard #:	Standard:
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.

Unit Essential Question:	**Unit Enduring Understandings:**
● How can the collection, organization, interpretation, and display of data be used to answer questions?	● The results of data collection can be used to support an argument. ● Place value assists addition and subtraction. ● Word problems can be multi-steps and involve more than one operation.

Unit Objectives:
- *Students will be able to draw a picture graph to represent data with up to four categories.*
- *Students will be able to draw a bar graph to represent data with up to four categories.*
- *Students will be able to solve problems using bar graphs.*
- *Students will be able to add and subtract within 1000 using concrete models or drawings.*

| Evidence of Learning |

Possible Formative Assessments:
- SMART Response questions used throughout the unit.
- Quizzes
- Homework
- Classwork

Summative Assessment:
- Unit Test

Possible Benchmark Assessments:
- Go Math Benchmark
- Unit Assessment

Possible Alternative Assessments:
- Choice boards - projects

- Skit
- Demonstration
- Journaling
- Conferencing

Suggested Lesson Plan	
Topics	**Approximate Timeframe**
Topic #1: Collect, organize, and interpret data for a pictograph. (single unit scale)/ **Possible Quiz #1**	6 days
Topic #2: Collect, organize, and interpret data for a bar graph. (single unit scale) Lab: RAFT – Fruitful Explorations **Possible Quiz #2**	4 days
Topic #3: School Survey Lab	2 days
Topic #4: Multi-digit addition (within 1000) with and without regrouping/ **Possible Quiz #3**	3 days
Topic #5: Multi-digit subtraction (within 1000) with and without regrouping/ **Possible Quiz #4**	3 days
Topic #6: Solve simple put-together, take-apart, and compare problems using information in a bar graph.	Inclusive
Topic #7: Use concrete models or drawings, strategies based on place value, and properties of operations to add and subtract within 1,000.	Inclusive
Review and Unit Test	2 days
Curriculum Resources:	

- https://njctl.org/courses/math/2nd-grade/data/
- http://www.raftbayarea.org/ideas/Fruitful%20Explorations.pdf
- Approved Classroom Textbooks