Course Title: Mathematics – Grade 2
Board Approval Date: 07/16/18
Revisited: August 15, 2022
Reviewed Annually
Credit / Hours: NA

Course Description:
This course focuses on mastery of the PA Core Standards for Mathematics. As students progress through this course they will participate in a systematic study of establishing routines, fact strategies, place value, measurement, addition and subtraction, whole number operations and number stories, data, geometry and arrays and equal shares.

Learning Activities / Modes of Assessment:

Large group instruction Small group work Collaborative Learning- EDM Games Online EDM website- Student accounts Reflex Math application	Summative Assessments Checklists/Teacher Observations (Pink Stars) Formative Assessments (Ticket out the Door)

Instructional Resources:

Everyday Mathematics/ Common Core Standards Fourth Edition (McGraw Hill, 2016) EM
Online (Instructional Resources through Everyday Math)
Discovery Education website
Brain Pop website
Reflex Math application

Course
Pacing
Guide

Course: **Math – Grade 2**

Course Unit (Topic) **(Days/Periods)**	**Length of Instruction**
1. Establishing Routines	21 days
2. Fact Strategies	19 days
3. More Fact Strategies	17 days
4. Place Value and Measurement	19 days
5. Addition and Subtraction	18 days
6. Whole Number Operations and Number Stories	16 days
7. Whole Number Operations and Measurement and Data	15 days
8. Geometry and Arrays	18 days
9. Equal Shares and Whole Number Operations	<u>23 days</u>
DAYS TOTAL	**166 days**

Topic: Establishing Routines   Days: 21
Subject(s): Mathematics   Grade(s): Second

Know: Understand: Do:

Vocabulary: Lesson 1-1: Math Message Lesson 1-2: number line Lesson 1-3: nickel Lesson 1-4: pattern, number grid, number scroll Lesson 1-5: pattern, number grid Lesson 1-6: equivalent names Lesson 1-7: combinations of 10 Lesson 1-8: quarter, Math Boxes Lesson 1-9: even number, odd number, pattern Lesson 1-10: pattern, multiple of 10 Lesson 1-11: (none) Lesson 1-12: Explorations, cube, long, flat	Numbers are all around us. They can be used to count, label, measure, and describe things and experiences. Following routines helps promote an active and cooperative learning environment.	- Comparing and ordering numbers - Counting on a number grid - Counting pennies; naming combinations of 10 - Finding number pairs that add to 10 - Counting pennies; finding how many more make 10 - Finding number pairs that add to 100 - Finding numbers that add to 10 - Counting and exchanging coins - Reading and adding money amounts - Comparing numbers **Standards**: CC.2.1.2.B.2 Use place value concepts to read, write and skip count to 1000. CC.2.1.2.B.2 Use place value concepts to read, write and skip count to 1000. CC.2.1.2.B.3 Use place value understanding and properties of operations to add and subtract within 1000. CC.2.2.2.A.2 Use mental strategies to add and subtract within 20. CC.2.1.2.B.3 Use place value understanding and properties of operations to add and subtract within 1000. CC.2.4.2.A.3 Solve problems using coins and paper currency with appropriate symbols.

Topic: Fact Strategies
Subject(s): Mathematics

Days: 19
Grade(s): Second

Know:	Understand:	Do:
Vocabulary: Lesson 2-1: trade, total Lesson 2-2: Addition number story, unit box, label, number model Lesson 2-3: doubles facts, sum, number sentence, combinations of 10 Lesson 2-4: addend, making 10, helper fact Lesson 2-5: near-doubles strategy, helper fact Lesson 2-7: turn-around rule, number story, Lesson 2-8: divide, half, halves, fourths Lesson 2-9: equal addends Lesson 2-10 and 2-11: name-collection box, equivalent Lesson 2-12:	Short cuts and fact strategies can be used to make addition and subtraction problems faster to solve resulting in quicker mastery of facts. Place value understanding and properties of operations to add and subtract.	• Making exchanges between pennies and nickels; making exchanges between $1, $10, and $100 bills • Making coin and bill exchanges • Finding number pairs that add to 10 • Counting on a number grid • Counting pennies; naming combinations of 10 • Practicing doubles addition facts • Writing addition number models to express even and odd numbers • Practicing addition and subtraction facts by naming a given target number **Standards**: CC.2.1.2.B.1 Use place value concepts to represent amounts of tens and ones and to compare three digit numbers. CC.2.1.2.B.2 Use place value concepts to read, write and skip count to 1000. CC.2.4.2.A.3 Solve problems using coins and paper currency with appropriate symbols. CC.2.2.2.A.2 Use mental strategies to add and subtract within 20.

		CC.2.1.2.B.3 Use place value understanding and properties of operations to add and subtract within 1000.
frames-and-arrows diagram, frame, arrow, arrow rule Lesson 2-13: (none)		
		CC.2.2.2.A.3 Work with equal groups of objects to gain foundations for multiplication.

Curriculum: CCSD CURRICULUM
Course: Mathematics Grade 2 – Unit 3

PENNSYLVANIA
Date: June 20, 2022

Topic: More Fact Strategies
Subject(s): Mathematics

Days: 17
Grade(s): Second

Know:	Understand:	Do:
Vocabulary: Lesson 3-1: double ten frame, making 10, near doubles Lesson 3-2: Subtraction number story, subtraction facts, addition facts, related facts, think-addition strategy Lesson 3-3: Facts table, row, column, diagonal, related facts, fact family, fact triangle Lesson 3-4: Equivalent names, missing addend Lesson 3-5: counting up, counting back Lesson 3-6: -0 facts, -1 facts, difference Lesson 3-7:	It is important to develop approaches to solving computational problems that move from the paper-and-pencil strategy to mental thinking. Add and subtract within 20. Use place value understanding and properties of operations to add and subtract.	• Practicing addition facts and finding missing addends • Counting pennies; finding how many more make 10 • Using a concrete model for subtraction • Finding differences between two 2-digit numbers • Practicing subtraction facts • Practicing addition and subtraction facts • Making exchanges between $1, $10, and $100 bills • Writing addition number models to express even and odd numbers • Making coin and bill exchanges **Standards**: CC.2.2.2.A.2 Use mental strategies to add and subtract within 20. CC.2.1.2.B.2 Use place value concepts to read, write and skip count to 1000.

"What's My Rule?", function machine, input, output		CC.2.1.2.B.3 Use place value understanding and properties of operations to add and subtract within 1000.
Lesson 3-8: think-addition strategy, related facts		CC.2.1.2.B.3 Use place value understanding and properties of operations to add and subtract within 1000.
Lesson 3-9: friendly number, going-back-through 10		
Lesson 3-10: going-up-through 10		CC.2.4.2.A.3 Solve problems using coins and paper currency with appropriate symbols.
Lesson 3-11: square, rectangle, fact wheel		CC.2.2.2.A.3 Work with equal groups of objects to gain foundations for multiplication.

Curriculum: CCSD CURRICULUM   PENNSYLVANIA
Course: Mathematics Grade 2 – Unit 4   Date: June 20, 2022

Topic: Place Value and Measurement   Days: 19
Subject(s): Mathematics   Grade(s): Second

Know:	Understand:	Do:
Vocabulary: Lesson 4-1: hour, minute, estimate, analog clock Lesson 4-2: hour hand, minute hand, analog clock, digital clock Lesson 4-3:	Understand place value. Measure and estimate lengths in standard units. Work with time and money.	• Writing addition number models to express even and odd numbers • Practicing addition facts • Comparing 3-digit numbers • Comparing 3-digit numbers and using <, >, and = symbols • Using base-10 blocks to model addition and subtraction • Making exchanges with base-10 blocks **Standards**:

A.M., P.M., 24-hour timeline Lesson 4-4: digit, cube, long, flat, base-10 blocks, expanded form Lesson 4-5: is greater than (>), is less than (<), expanded form Lesson 4-6: base-10 blocks, cube, long, flat, represent Lesson 4-7: (none) Lesson 4-8: foot, ruler, standard unit Lesson 4-9: standard unit, inch, foot Lesson 4-10: standard unit, centimeter, metric system, U.S. customary system Lesson 4-11: (none) Lesson 4-12: (none)		CC.2.2.2.A.2 Use mental strategies to add and subtract within 20. CC.2.2.2.A.3 Work with equal groups of objects to gain foundations for multiplication. CC.2.1.2.B.1 Use place value concepts to represent amounts of tens and ones and to compare three digit numbers. CC.2.1.2.B.2 Use place value concepts to read, write and skip count to 1000. CC.2.1.2.B.3 Use place value understanding and properties of operations to add and subtract within 1000.

Curriculum: CCSD CURRICULUM   PENNSYLVANIA
Course: Mathematics Grade 2 – Unit 5   Date: June 20, 2022

Topic: Addition and Subtraction   Days: 18
Subject(s): Mathematics   Grade(s): Second

Know:	Understand:	Do:
Vocabulary: Lesson 5-1: addition fact, fact power	Represent and solve problems involving addition and subtraction.	• Practicing addition facts • Applying knowledge of basic addition facts to compute extended facts • Making coin and bill exchanges • Finding the total value of various coin combinations

Lesson 5-2: equivalencies Lesson 5-3: (none) Lesson 5-4: (none) Lesson 5-5: array Lesson 5-6: mental addition and subtraction Lesson 5-7: open number line Lesson 5-8: change-to-more number story, change diagram Lesson 5-9: parts-and-total diagram, total, parts-and-total number story Lesson 5-10: thermometer, degree Fahrenheit, change diagram, change-to-less number story Lesson 5-11: open number line Lesson 5-12: (none)	Place value understanding and properties of operations to add and subtract. Work with time and money.	• Practicing addition facts and finding missing addends • Using base-10 blocks to model addition and subtraction • Matching times shown on clock faces to digital notation • Adding and subtracting 10 and 100 mentally • Practicing subtraction facts • Comparing numbers **Standards**: CC.2.2.2.A.2 Use mental strategies to add and subtract within 20. CC.2.1.2.B.3 Use place value understanding and properties of operations to add and subtract within 1000. CC.2.4.2.A.3 Solve problems using coins and paper currency with appropriate symbols. CC.2.1.2.B.1 Use place value concepts to represent amounts of tens and ones and to compare three digit numbers. CC.2.1.2.B.2 Use place value concepts to read, write and skip count to 1000. CC.2.4.2.A.2 Tell and write time to the nearest five minutes using both analog and digital clocks.

Topic: Whole Number Operations and Number Stories   Days: 16
Subject(s): Mathematics   Grade(s): Second

Know:	Understand:	Do:
Vocabulary: Lesson 6-1: data, tally chart, picture graph, graph key, bar graph Lesson 6-2: comparison number story, comparison diagram, quantity, difference Lesson 6-3: (none) Lesson 6-4: (none) Lesson 6-5: two-step number story Lesson 6-6: ballpark estimate Lesson 6-7: partial sums Lesson 6-8: partial-sums addition Lesson 6-9: (none) Lesson 6-10: geoboard, rectangular array Lesson 6-11: (none)	Represent and solve problems involving addition and subtraction. Place value understanding and properties of operations to add and subtract. Relate addition and subtraction to length.	• Making exchanges with base-10 blocks • Practicing addition facts and finding missing addends • Practicing addition facts **Standards**: CC.2.1.2.B.1 Use place value concepts to represent amounts of tens and ones and to compare three digit numbers. CC.2.2.2.A.2 Use mental strategies to add and subtract within 20.

Topic: Whole Number Operations and Measurement and Data   Days: 15
Subject(s): Mathematics   Grade(s): Second

Know:	Understand:	Do:
Vocabulary: Lesson 7-1: multiple of 10 Lesson 7-2: addends, partial-sums addition Lesson 7-3: (none) Lesson 7-4: standard unit, yard, personal reference Lesson 7-5: meter Lesson 7-6: arm span Lesson 7-7: line plot Lesson 7-8: frequency table, line plot Lesson 7-9: (none) Lesson 7-10: (none)	Place value understanding and properties of operations to add and subtract. Measure and estimate lengths in standard units. Represent and interpret data.	• Finding differences between 2-digit numbers and multiples of 10 • Finding differences between 2-digit numbers and 3-digit numbers • Adding three or more numbers • Practicing addition facts • Adding and subtracting 10 and 100 mentally with 3-digit numbers **Standards**: CC.2.2.2.A.2 Use mental strategies to add and subtract within 20. CC.2.1.2.B.1 Use place value concepts to represent amounts of tens and ones and to compare three digit numbers. CC.2.1.2.B.3 Use place value understanding and properties of operations to add and subtract within 1000. CC.2.4.2.A.1 Measure and estimate lengths in standard units using appropriate tools. CC.2.4.2.A.4 Represent and interpret data using line plots, picture graphs, and bar graphs. CC.2.1.2.B.2 Use place value concepts to read, write and skip count to 1000. CC.2.4.2.A.6 Extend the concepts of addition and subtraction to problems involving length.

		CC.2.3.2.A.1 Analyze and draw two- and three- dimensional shapes having specified attributes.

Curriculum: CCSD CURRICULUM

PENNSYLVANIA

Course: Mathematics Grade 2 – Unit 8

Date: June 20, 2022

Topic: Geometry and Arrays

Days: 18

Subject(s): Mathematics

Grade(s): Second

Know:	Understand:	Do:
Vocabulary: Lesson 8-1: attribute, side, angle, vertex, parallel, right angle Lesson 8-2: (none) Lesson 8-3: polygon Lesson 8-4: attribute, quadrilateral, side, angle, parallel sides, right angle Lesson 8-5: cube, face, apex Lesson 8-6: row, column, partition Lesson 8-7: (none) Lesson 8-8: equal groups, array, row, column Lesson 8-9: (none) Lesson 8-10: (none)	Work with equal groups of objects to gain foundations for multiplication. Reason with shapes and their attributes.	• Practicing subtraction facts • Identifying shapes by their attributes • Using base-10 blocks to model addition and subtraction • Practicing subtraction with 2-digit numbers • Practicing addition facts • Adding three or more numbers • Finding the total number of objects in arrays and writing matching number models • Finding the total number of objects in arrays **Standards**: CC.2.2.2.A.2 Use mental strategies to add and subtract within 20. CC.2.3.2.A.1 Analyze and draw two- and three- dimensional shapes having specified attributes. CC.2.1.2.B.1 Use place value concepts to represent amounts of tens and ones and to compare three digit numbers. CC.2.1.2.B.2 Use place value concepts to read, write and skip count to 1000. CC.2.1.2.B.3 Use place value understanding

| Lesson 8-11: (none)

Lesson 8-12: (none) | | and properties of operations to add and subtract within 1000.

CC.2.2.2.A.3 Work with equal groups of objects to gain foundations for multiplication. |

Curriculum: CCSD CURRICULUM   PENNSYLVANIA
Course: Mathematics Grade 2 – Unit 9   Date: June 20, 2022

Topic: Equal Shares and Whole Number Operations   Days: 23
Subject(s): Mathematics   Grade(s): Second

Know:	Understand:	Do:
Vocabulary: Lesson 9-1: equal share, one-half (1-half), two-halves (2-halves), one-fourth (1-fourth), one-quarter (1-quarter), four-fourths (4-fourths), one-third (1-third), three-thirds (3-thirds) Lesson 9-2: (none) Lesson 9-3: equal shares, one-half, two-halves, one-fourth, four-fourths, one-quarter Lesson 9-4: half-inch, fourth-inch, precise, quarter-inch Lesson 9-5: thousand cube Lesson 9-6: (none) Lesson 9-7: expand-and-trade subtraction	Work with equal groups of objects to gain foundations for multiplication. Place value understanding and properties of operations to add and subtract. Reason with shapes and their attributes.	• Finding the total number of objects in an array and writing matching number models • Identifying shapes by their attributes • Comparing multidigit numbers • Practicing addition facts • Finding differences between multiples of 10 and smaller 2-digit numbers **Standards**: CC.2.2.2.A.3 Work with equal groups of objects to gain foundations for multiplication. CC.2.1.2.B.2 Use place value concepts to read, write and skip count to 1000. CC.2.3.2.A.1 Analyze and draw two- and three- dimensional shapes having specified attributes. CC.2.1.2.B.1 Use place value concepts to represent amounts of tens and ones and to compare three digit numbers. CC.2.2.2.A.2 Use mental strategies to add and subtract within 20. CC.2.1.2.B.3 Use place value understanding

Lesson 9-8: (none) Lesson 9-9: ballpark estimate, close-but-easier numbers, reasonable, precisely Lesson 9-10: (none) Lesson 9-11: multiple Lesson 9-12: (none)		and properties of operations to add and subtract within 1000.

Course/Subject: **Second Grade Mathematics Unit 1**   Length of instruction: 12 Days

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Unit Essential Question:

Why is following a routine important?

Concept(s):

Establishing routines helps create a cooperative environment. Numbers are all around us. They can be used to count, label, measure, and describe things and experiences.

Lesson Essential Question/s:	*Lesson Essential Question/s:*	*Lesson Essential Question/s:*
Lesson 1-1: How do we use number lines to understand patterns?	**Lesson 1-5: What strategies can we use to answer an open response question?**	**Lesson 1-9: How do we identify even and odd numbers?**
Lesson 1-2: How do we use number lines to solve addition and subtraction number stories?	**Lesson 1-6: Why is it important to find equivalent names for numbers?**	**Lesson 1-10: How do we find place-value patterns while skip counting on calculators?**
Lesson 1-3: What strategies do you use to solve coin-combination problems?	**Lesson 1-7: How do we build our fact fluency?**	**Lesson 1-11: How do we use symbols to compare numbers?**
Lesson 1-4: What patterns can you use to make a number scroll?	**Lesson 1-8: How can you use your *My Reference* book to complete math boxes?**	**Lesson 1-12:** *Exploration Day: Base-Ten Blocks / Area / Dominoes*

Vocabulary:	*Vocabulary:*	*Vocabulary:*
1-1 – Math Message **1-2** – Number Line **1-3** - Nickle **1-4** – Pattern, Number Grid, Number Scroll	**1-5** – Pattern, Number Grid **1-6** – Equivalent Names **1-7** – Combinations of 10 **1-8** – Quarter, Math Boxes	**1-9** – Even Number, Odd Number, Pattern **1-10** – Pattern, Multiple of 10 **1-11** – N/A **1-12** – Explorations, Cube, Long, Flat

Course/Subject: **Second Grade Mathematics Unit 2**   Length of instruction: 12 Days

Unit Essential Question:
What strategies can be used to solve addition facts?

Concept(s)*:*
Strategies can be used to make addition problems faster to solve. Place value understanding and properties of operations to add and subtract.

Lesson Essential Question/s:	*Lesson Essential Question/s:*	*Lesson Essential Question/s:*
Lesson 2-1: What is the relationship between place-value and money?	**Lesson 2-5: How do we build our fact fluency?**	**Lesson 2-9: How do we know whether a number is even or odd?**
Lesson 2-2: How do we write and solve addition number stories?	**Lesson 2-6: How do we build our fact fluency?**	**Lesson 2-10: Why do we use name-collection boxes?**
Lesson 2-3: How do we build our fact fluency?	**Lesson 2-7: What strategies can we use to answer an open response question?**	**Lesson 2-11: How do we use cards to name a target number?**
Lesson 2-4: How do we build our fact fluency?	**Lesson 2-8:** *Exploration Day:* **Additional Tools / Odd & Even Numbers / Shapes**	**Lesson 2-12: How do we solve Frames-and-Arrows problems?**

Vocabulary:	*Vocabulary:*	*Vocabulary:*
• **2-1** – Trade, Total • **2-2** – Addition Number Story, Unit Box, Label, Number Model • **2-3** – Doubles Facts, Sum, Number Sentence, Combinations of 10 • **2-4** – Addend, Making 10, Helper Fact	• **2-5** – Near Doubles Strategy, Helper Fact • **2-6** - Near Doubles Strategy, Helper Fact • **2-7** – Turn-Around Rule, Number Story • **2-8** – Divide, Halves, Half, Fourths	• **2-9** – Equal Addends • **2-10** – Name Collection Box, Equivalent • **2-11** - Name Collection Box, Equivalent • **2-12** – Frames and Arrows Diagram, Frames, Arrows, Arrow Rule

Course/Subject: **Second Grade Mathematics Unit 3**   Length of instruction: 11 Days

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Unit Essential Question:

What strategies can be used to solve addition and subtraction facts?

Concept(s):

It is important to develop approaches to solving computational problems that move from the paper-and-pencil strategy to mental thinking / Add and subtract within 20 / Use place value understanding and properties of operations to add and subtract.

Lesson Essential Question/s:

Lesson 3-1: What strategies can we use to answer an open response question?

Lesson 3-2: What strategies can we use to write number stories?

Lesson 3-3: How do we create fact families using fact triangles?

Lesson 3-4: What strategies can we use to find missing numbers?

Lesson Essential Question/s:

Lesson 3-5: What strategies can we use to solve subtraction problems?

Lesson 3-6: What strategies do we use to solve -0 and -1 facts?

Lesson 3-7: What strategies help us solve a "What's My Rule" Problem?

Lesson 3-8: How do we use doubles to solve subtraction facts?

Lesson Essential Question/s:

Lesson 3-9: How do we use the going back through 10 strategy for subtraction?

Lesson 3-10: How do we use the going up through 10 strategy for subtraction?

Lesson 3-11: Exploration Day: Pattern Blocks / Fact Wheels / Coins

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Vocabulary:

- **3-1** – Double Ten Frame, Making 10, Near Doubles
- **3-2** – Addition Facts, Fact Family Related Facts, Subtraction Facts, Subtraction Number Story, Think Addition Strategy
- **3-3** – Column, Fact Family Related Facts, Fact Triangle, Row, Facts Table, Diagonal
- **3-4** – Equivalent Names, Missing Addend

Vocabulary:

- **3-5** – Counting Up / Counting Back
- **3-6** - -0 and -1 facts, Difference
- **3-7** – Function Machine, Input and Output, "Whats My Rule"
- **3-8** - Fact Family Related Facts, Think Addition Strategy

Vocabulary:

- **3-9** – Friendly Number, Going Back Through 10
- **3-10** – Going Up Through 10
- **3-11** – Fact Wheel, Rectangle, Square

Course/Subject: Second Grade Mathematics Unit 4   Length of instruction: 11 Days

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Unit Essential Question:

Why is it important to understand number positions? How do use tools and units to measure?

Concept:

Understand place value. Measure and estimate lengths in standard units. Work with time and money.

Lesson Essential Question/s:	*Lesson Essential Question/s:*	*Lesson Essential Question/s:*
Lesson 4-1: How do we tell time to the nearest hour and half hour? **Lesson 4-2: How do we tell time to the nearest 5 minutes?** **Lesson 4-3: What is the difference between A.M. and P.M. times?** **Lesson 4-4: How can we show the place value of numbers?**	**Lesson 4-5: How can we use place value to compare 2 numbers?** **Lesson 4-6: How do we use base ten blocks to show a 3-digit number?** **Lesson 4-7: How can we use base ten blocks for addition and subtraction of 3-digit numbers?** **Lesson 4-8: How do we measure objects using a foot long ruler?**	**Lesson 4-9: How do we measure objects using inches?** **Lesson 4-10: How do we measure objects using centimeters?** **Lesson 4-11: Exploration Day: Math Fact Strategies / Measurement / Arrays**

Vocabulary:	Vocabulary:	Vocabulary:
• **4-1** – Analog Clock, Estimate, Hour, Minute • **4-2** – Analog Clock, Digital Clock, Hour Hand, Minute Hand • **4-3** – 24 hour timeline, A.M., P.M. • **4-4** – Base !0 Blocks, Flat / Long / Cube, Digit	• **4-5** – Expanded Form, Is Greater Than, Is Less Than • **4-6** – Base Ten Blocks, Flat / Long / Cube, Represent • **4-7** - • **4-8** – Foot, Ruler, Standard Unit	• **4-9** – Foot, Inch, Standard Unit • **4-10** – Centimeters (cm), Metric System, Standard Unit, U.S Customary System • **4-11** –

Course/Subject: **Second Grade Mathematics Unit 5**   Length of instruction: 11 Days

Unit Essential Question:

How can using mental math strategies help us to solve addition and subtraction problems?

Concept:

Represent and solve problems involving addition and subtraction. Place value understanding and properties of operations to add and subtract. Work with time and money.

Lesson Essential Question/s:	*Lesson Essential Question/s:*	*Lesson Essential Question/s:*
Lesson 5-1: How do we develop fact power? **Lesson 5-2: How do we make equivalent groups of money?** **Lesson 5-3: How do we find coin combinations to pay for items and make change?** **Lesson 5-4: What coins do you use to make purchases and make change?**	**Lesson 5-5: Exploration Day: Arrays / Clocks / Geoboard** **Lesson 5-6: What strategies can be used to mentally add and subtract 10 and 100?** **Lesson 5-7: How do I use open number lines to solve number stories?** **Lesson 5-8: How do we solve change to more number stories?**	**Lesson 5-9: How do we solve parts-and-total number stories?** **Lesson 5-10: How do we solve change numbers stories involving temperature?** **Lesson 5-11: What strategies can we use to solve an open response question?**

Vocabulary:	Vocabulary:	Vocabulary:
• **5-1** – Addition Fact, Fact Power • **5-2** – Equivalencies • **5-3** - • **5-4** -	• **5-5** - Array • **5-6** – Mental Addition, Mental Subtraction • **5-7** - • **5-8** – Chang Diagram, Change to more number story	• **5-9** – Parts and total diagram, Parts and total number story, total • **5-10** – Change to less number story, Degree Fahrenheit, Thermometer • **5-11** – Open Number Line

Course/Subject: **Second Grade Mathematics Unit 6**   Length of instruction: 10 Days

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Unit Essential Question:

How are visual organizers used to solve number stories?

Concept:

Represent and solve problems involving addition and subtraction. Place value understanding and properties of operations to add and subtract. Relate addition and subtraction to length.

Lesson Essential Question/s:	*Lesson Essential Question/s:*	*Lesson Essential Question/s:*
Lesson 6-1: How can we design a graph to represent data? **Lesson 6-2: How do we use a comparison diagram to organize information in a number story?** **Lesson 6-3: How do we choose a diagram to solve a number story?** **Lesson 6-4: How do we create and solve a number story using given data?**	**Lesson 6-5: How do we solve a two-step number story using a given number model?** **Lesson 6-6: What strategies can we use to solve addition problems?** **Lesson 6-7: How do we use partial sums to solve addition problems?** **Lesson 6-8: How do we use partial sums to solve addition problems?**	**Lesson 6-9: What strategies can we use to solve an open response question?** **Lesson 6-10: Exploration Day: Arrays / Measurement / Making Shapes**

Vocabulary:	Vocabulary:	Vocabulary:
• **6-1** – Bar Graph, Data, Graph Key, Picture Graph, Tally Chart • **6-2** – Comparison Diagram, Comparison Number Story, Difference, Quantity • **6-3** - • **6-4** -	• **6-5** – Two-Step Number Story • **6-6** – Ballpark Estimate • **6-7** – Partial Sums • **6-8** – Partial Sums Addition	• **6-9** - • **6-10** - Geoboard, Rectangular Array

Course/Subject: **Second Grade Mathematics Unit 7**   Length of instruction: 9 Days

Unit Essential Question:

How do we collect and use data?

Concept:

Place value understanding and properties of operations to add and subtract. Measure and estimate lengths in standard units. Represent and interpret data.

Lesson Essential Question/s:	Lesson Essential Question/s:	Lesson Essential Question/s:
Lesson 7-1: How do we find the difference between 2 numbers? **Lesson 7-2: What strategies can we use to solve an open response question?** **Lesson 7-3: What strategies do we use to solve problems with three or more addends?** **Lesson 7-4: Why do we use standard units of measurement?**	**Lesson 7-5: Why do we measure with different systems and units?** **Lesson 7-6: How do you find the nearest inch of centime when measuring?** **Lesson 7-7: How do we organize data on a line plot and frequency table?** **Lesson 7-8: How do we organize data on a line plot and frequency table?**	**Lesson 7-9: Exploration Day: Shape Attributes / Graph / Measurement**

Vocabulary:	*Vocabulary:*	*Vocabulary:*
• **7-1** – Multiple of 10 • **7-2** – Addends, Partial-Sums Addition • **7-3** - • **7-4** – Personal Reference, Standard Unit, Yard(y)	• **7-5** – Meter (m) • **7-6** – Arm Span • **7-7** – Line Plot • **7-8** – Frequency Table, Line Plot	• **7-9** -

Course/Subject: Second Grade Mathematics Unit 8   Length of instruction: 11 Days

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Unit Essential Question:

How can we classify geometric figures? How can we arrange objects into an array?

Concept:

Work with equal groups of objects to gain foundations for multiplication. Reason with shapes and their attributes.

Lesson Essential Question/s:	*Lesson Essential Question/s:*	*Lesson Essential Question/s:*
Lesson 8-1: What are the attributes of 2-dimensonal shapes? **Lesson 8-2: What are the attributes of 2-dimensonal shapes?** **Lesson 8-3: What are the attributes of different polygons?** **Lesson 8-4: What strategies can we use to solve an open response question?**	**Lesson 8-5: What are the attributes of 3 dimensional shapes?** **Lesson 8-6: How do we partition rectangles into same sized squares?** **Lesson 8-7: How do we partition rectangles into same sized squares?** **Lesson 8-8: How do we solve number stories about equal groups and arrays?**	**Lesson 8-9: How do we build arrays and write number stories?** **Lesson 8-10: How do we build arrays and write number stories?** **Lesson 8-11: Exploration Day: Mystery Shapes / Polygons / Equal Parts**

Vocabulary:	*Vocabulary:*	*Vocabulary:*
• **8-1** – Angle, Attribute, Parallel, Right Angle, Side, Vertex • **8-2** - • **8-3** - Polygon • **8-4** – Angle, Attribute, Parallel Sides, Quadrilateral, Right Angle, Side	• **8-5** – Apex, Cube, Face • **8-6** – Column, Partition, Row • **8-7** - • **8-8** – Array, Column, Equal Groups, Row	• **8-9** - • **8-10** - • **8-11** -

Course/Subject: **Second Grade Mathematics Unit 9**   Length of instruction: 11 Days

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Unit Essential Question:

How can we name part of the whole?

Concept:

Work with equal groups of objects to gain foundations for multiplication. Place value understanding and properties of operations to add and subtract. Reason with shapes and their attributes.

Lesson Essential Question/s:	*Lesson Essential Question/s:*	*Lesson Essential Question/s:*
Lesson 9-1: How do we name fractions? **Lesson 9-2: Exploration Day: Equal shares / Pattern Block Fractions / Number Lines** **Lesson 9-3: What strategies can we use to solve an open response question?** **Lesson 9-4: How do we measure lengths to the nearest half inch?**	**Lesson 9-5: How do we use place value to compare numbers?** **Lesson 9-6: How do we trade when subtracting?** **Lesson 9-7: How do we trade when subtracting?** **Lesson 9-8: How do we find and write equivalent money amounts?**	**Lesson 9-9: What strategies can we use to solve an open response question?** **Lesson 9-10: How do we solve number stories about two equal groups?** **Lesson 9-11: What strategies do we use to solve problems involving multiples of 10 and 5.**

Vocabulary:	Vocabulary:	Vocabulary:
• **9-1** – Equal Shares, Four-Fourths, One-Half, One-Quarter, One-Third, Three-thirds. Two-Halves • **9-2** - • **9-3** – Equal Shares, Four-Fourths, One-Fourth, One-Half, One-Quarter, Two-Halves • **9-4** – Half Inch, Fourth Inch, Quarter Inch, Precise, Precisely	• **9-5** – Thousand Cube • **9-6** - • **9-7** – Expand-and-trade subtraction • **9-8** -	• **9-9** – Ballpark Estimate, Close-but-easier numbers, Precise, Precisely, Reasonable • **9-10** - • **9-11** - Multiple