NCS COMMUNITY SCHOOL
MATHEMATICS CURRICULUM FRAMEWORK
BOE APPROVED AUGUST 2024

GRADE : 1

PACING

PACING	SEPT	OCT	NOV	DEC	JAN	FEB	MARCH	APRIL	MAY	JUNE
	Topic 1: Solve Addition and Subtraction Problems to 10.	**Topic** 2: Fluently Add and Subtract Within 10. **Topic** 3: Addition Facts to 20: Use Strategies	**Topic** 4: Subtraction Facts to 20: Use Strategies	**Topic** 5: Work with Addition and Subtraction Equations	**Topic** 6: Represent and Interpret Data **Topic** 7: Extend the Counting Sequence	**Topic** 8: Understand Place Value Topic 9:Compare Two-Digit Numbers	**Topic** 10: Use Models and Strategies to Add Tens and Ones	**Topic** 11: Use Models and Strategies to Subtract Tens **Topic** 12: Measure Lengths	**Topic** 13: Time and Money **Topic** 14: Reason with Shapes and Their Attributes	**Topic** 15: Equal Shares of Circles and Rectangles
NJSLA Domain	Operations and Algebraic Thinking	Operations and Algebraic Thinking	Operations and Algebraic Thinking	Operations and Algebraic Thinking	Measurement and Data Number and Operations in Base Ten	Number and Operations in Base Ten	Number and Operations in Base Ten	Number and Operations in Base Ten Measurement and Data	Measurement and Data Geometry	Geometry
District Assessments		End of Year by Oct. 6th BOY	- Formative : - Independent Classwork - Checkpoint quizzes - Summative : -		MOY Fluency and EOY Assessme	- Formative : - Independent Classwork - Checkpoint quizzes - Summative : - Benchmark assessment Beginning/Mid/End of year - Performance Tasks - End of chapter assessment				EOY Fluency Assessment and

		Fluency Assessment by Oct 6th	Benchmark assessment Beginning/Mid/End of year - Performance Tasks - End of chapter assessment - Course Benchmark– Big Ideas assessment book - Alternative assessments could include a project or performance task		nt by Feb. 16th	- Course Benchmark– Big Ideas assessment book - Alternative assessments could include a project or performance task				EOY Assessment by June 15th
Mathematical Practices	Construct Arguments MP.3 (Also, MP.1, MP.2)	**Look for and Use Structure MP.7** (Also,MP.2, MP.3, MP.4) **Critique Reasoning MP.3** (Also, MP.2, MP.4)	Reasoning MP.2 (Also, MP.1, MP.3, MP.4)	**Problem Solving MP.6** (Also MP.3)	**Problem Solving MP.1** (Also, MP.3,MP.4 ,MP.6) **Repeated Reasoning MP.8** (Also, MP.1, MP.2, MP.7)	**Look For and Use Structure MP.7** (Also, MP.2, MP.3) **Make Sense and Persevere MP.1** (Also, MP.2, MP.3)	**Model with Math MP.4** (Also, MP.2, MP.3, MP.5)	**Model with Math MP.4** (Also, MP.1, MP.5) **Use Appropriate Tools MP.5** (Also, MP.3, MP.8)	Reasoning MP.2 (Also, MP.3, MP.4, MP.8) **Make Sense and Persevere MP.1** (Also, MP.2, MP.6, MP.8)	**Model with Math MP.4** (Also, MP.2, MP.3)
NJSLS Technology	8.1.2.A.1 8.1.2.A.4 8.1.2.E.1 8.2.2.E.1 8.2.2.C.1	8.1.2.A.1 8.1.2.A.4 8.1.2.E.1 8.2.2.E.1 8.2.2.C.1	8.1.2.A.1 8.1.2.A.4 8.1.2.E.1 8.2.2.E.1 8.2.2.C.1	8.1.2.A.1 8.1.2.A.4 8.1.2.E.1 8.2.2.E.1 8.2.2.C.1	8.1.2.A.1 8.1.2.A.4 8.1.2.E.1 8.2.2.E.1 8.2.2.C.1	8.1.2.A.1 8.1.2.A.4 8.1.2.E.1 8.2.2.E.1 8.2.2.C.1	8.1.2.A.1 8.1.2.A.4 8.1.2.E.1 8.2.2.E.1 8.2.2.C.1	8.1.2.A.1 8.1.2.A.4 8.1.2.E.1 8.2.2.E.1 8.2.2.C.1	8.1.2.A.1 8.1.2.A.4 8.1.2.E.1 8.2.2.E.1 8.2.2.C.1	8.1.2.A.1 8.1.2.A.4 8.1.2.E.1 8.2.2.E.1 8.2.2.C.1
NJSLS Career	CRP2, CRP3,	CRP2, CRP3,	CRP2, CRP3,	CRP2, CRP3,	CRP2, CRP3,	CRP2, CRP3,	CRP2, CRP3,	CRP2, CRP3,	CRP2, CRP3,	CRP2, CRP3,

Readiness Practices	CRP4, CRP6, CRP8, CRP11, CRP12	CRP4, CRP6, CRP8, CRP11, CRP12	CRP4, CRP6, CRP8, CRP11, CRP12	CRP4, CRP6, CRP8, CRP11, CRP12	CRP4, CRP6, CRP8, CRP11, CRP12	CRP4, CRP6, CRP8, CRP11, CRP12	CRP4, CRP6, CRP8, CRP11, CRP12	CRP4, CRP6, CRP8, CRP11, CRP12	CRP4, CRP6, CRP8, CRP11, CRP12	CRP4, CRP6, CRP8, CRP11, CRP12
9.1 Personal Financial Literacy Standards	9.1.4.A.2 Identify potential sources of income. 9.1.4.B.1 Differentiate between financial wants and needs. 9.1.4.B.5 Identify ways to earn and save. 9.1.4.G.1 Describe how valuable items might be damaged or lost and ways to protect them. 9.1.4.F.2 Explain the roles of philanthropy, volunteer service, and charitable contributions, and analyze their impact on community development and quality of living.									

Mathematics in Grade 1, instructional time should focus on four critical areas:

(1) developing understanding of addition, subtraction, and strategies for addition and subtraction within 20;
(2) developing understanding of whole number relationships and place value, including grouping in tens and ones;
(3) developing understanding of linear measurement and measuring lengths as iterating length units; and
(4) reasoning about attributes of, and composing and decomposing geometric shapes.

(1) Students develop strategies for adding and subtracting whole numbers based on their prior work with small numbers. They use a variety of models, including discrete objects and length-based models (e.g., cubes connected to form lengths), to model add-to, takefrom, put-together, take-apart, and compare situations to develop meaning for the operations of addition and subtraction, and to develop strategies to solve arithmetic problems with these operations. Students understand connections between counting and addition and subtraction (e.g., adding two is the same as counting on two). They use properties of addition to add whole numbers and to create and use increasingly sophisticated strategies based on these properties (e.g., "making tens") to solve addition and subtraction problems within 20. By comparing a variety of solution strategies, children build their understanding of the relationship between addition and subtraction.

(2) Students develop, discuss, and use efficient, accurate, and generalizable methods to add within 100 and subtract multiples of 10. They compare whole numbers (at least to 100) to develop understanding of and solve problems involving their relative sizes. They think of whole numbers between 10 and 100 in terms of tens and ones (especially recognizing the numbers 11 to 19 as composed of a ten and some ones). Through activities that build number sense, they understand the order of the counting numbers and their relative magnitudes.

(3) Students develop an understanding of the meaning and processes of measurement, including underlying concepts such as iterating (the mental activity of building up the length of an object with equal-sized units) and the transitivity principle for indirect measurement.1

(4) Students compose and decompose plane or solid figures (e.g., put two triangles together to make a quadrilateral) and build understanding of part-whole relationships as well as the properties of the original and composite shapes. As they combine shapes, they recognize them from different perspectives and orientations, describe their geometric attributes, and determine how they are alike and different, to develop the background for measurement and for initial understandings of properties such as congruence and symmetry.

Grade 1 Overview:
Operations and Algebraic Thinking
- Represent and solve problems involving addition and subtraction.
- Understand and apply properties of operations and the relationship between addition and subtraction.
- Add and subtract within 20.
- Work with addition and subtraction equations.

Number and Operations in Base Ten
- Extend the counting sequence.
- Understand place value.
- Use place value understanding and properties of operations to add and subtract.

Measurement and Data
- Measure lengths indirectly and by iterating length units.
- Tell and write time.

• Represent and interpret data.

Geometry

    • Reason with shapes and their attributes.

Mathematical Practices:

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

Social Emotional Learning (SEL) in MATHEMATICS:

Provide students with opportunities to express themselves through discussions that connect to each topic and allow them to explore their feelings about math. Thinking deeply about each topic will help students apply problem solving and critical thinking strategies that will help them reflect on their work and overall performance as well as confidence in mathematics.

● What parts of math make you feel successful?
● What can we learn from our mistakes?
● What self-talk can you use to help you persevere?
● What are positive ways to respond when math starts to feel challenging?
● What can friends say to help us feel better and more successful in math?
● What can we learn from our mistakes in math?
● How can you be a good group member?
● How will you help yourself get "unstuck?"
● Where or when can you use today's math lesson when you are not in school?
● How do we respond if we don't agree with someone's answer or if we know the answer is incorrect?
● How do we feel about solving problems in a different way when asked?

● Did everyone get a fair chance to talk and/or use the manipulatives?

UNIT 1 - Operations and Algebraic Thinking - Chapters 1 - 5		
Unit Summary	**NJSLS Standards**	**Essential Questions**
In this unit students will ● Understand addition ● Understand fluency and strategies ● Understand problem solving ● Understand counting strategies ● Understand subtraction strategies	NJSLS: Operations and Algebraic Thinking 1.OA.A.1 Use addition and subtraction within 20 to solve word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem. 1.OA.A.2 Solve word problems that call for addition of three whole numbers whose sum is less than or equal to 20, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem. 1.OA.B.3 Apply properties of operations as strategies to add and subtract.3 Examples: If 8 + 3 = 11 is known, then 3 + 8 = 11 is also known. (Commutative property of addition.) To add 2 + 6 + 4, the second two	● How can you model adding within 20? ● How can you subtract numbers from 20 or less? ● How do you solve addition problems? ● How do you solve subtraction problems? ● How can relating addition and subtraction help you to learn and understand facts within 20?

| | numbers can be added to make a ten, so 2 + 6 + 4 = 2 + 10 = 12. (Associative property of addition.) {Students need not use formal terms for these properties} 1.OA.B.4 Understand subtraction as an unknown-addend problem. For example, subtract 10 – 8 by finding the number that makes 10 when added to 8.
1.OA.C.5 Relate counting to addition and subtraction (e.g., by counting on 2 to add 2).
1.OA.C.6 Add and subtract within 20, demonstrating accuracy and efficiency for addition and subtraction within 10. Use strategies such as counting on; making ten (e.g., 8 + 6 = 8 + 2 + 4 = 10 + 4 = 14); decomposing a number leading to a ten (e.g., 13 – 4 = 13 – 3 – 1 = 10 – 1 = 9); using the relationship between addition and subtraction (e.g., knowing that 8 + 4 = 12, one knows 12 – 8 = 4); and creating equivalent but easier or known sums (e.g., adding 6 + 7 by creating the known equivalent 6 + 6 + 1 = 12 + 1 = 13).
1.OA.D.7 Understand the meaning of the equal sign, and determine if equations involving addition and subtraction are true or false. For | |

| | example, which of the following equations are true and which are false? 6 = 6, 7 = 8 – 1, 5 + 2 = 2 + 5, 4 + 1 = 5 + 2. Determine the unknown whole number in an addition or subtraction equation relating to three whole numbers. For example, determine the unknown number that makes the equation true in each of the equations 8 + ? = 11, 5 = – 3, 6 + 6 = ?.
Number and Operations in Base Ten
1.
NBT.B.3 Compare two two-digit numbers based on meanings of the tens and ones digits, recording the results of comparisons with the symbols >, =, and <. | |

Learning Goals:
● Write an addition equation and a subtraction equation ● Model addition and subtraction ● Explain rules. ● Apply strategies ● Explain an equation ● Apply strategies ● Explain the strategies used ● Apply strategies to solve word problems ● Explain the subtraction strategy used ● Compare addition and subtraction strategies.

Fluency Expectations:
By the end of First, students can add and subtract within 10.

Modifications and Accommodations (ELL, SE, BSI, G&T, 504):
Reteach and Enrichment activities from Big Ideas Math ● Small group instruction ● Use of manipulatives, visuals, and other teaching tools ● Flexible grouping ● Check for comprehension and understanding ● Repeating, clarifying or rewording directions ● Teacher modeling of what is expected and necessary steps to complete task ● Provide student with open ended questions that stimulate higher order thinking ● Tiered assignments

Vocabulary:

add ● addend ● addition equation ● difference ● equals ● fewer ● minus ● more ● part ● part-part-whole model ● plus ● subtract ● subtraction equation ● sum ● whole ● count back ● count on ● doubles ● doubles minus 1 ● doubles plus 1 ● number line ● bar model ● fact family

Resources:

Math textbook - Big Ideas: Modeling Real Life
Supplemental: Counting Cubes, Ten Frame, Number Line, Smart Board,
Varied manipulatives. www.edulastic.com Inside Mathematics, online sites

UNIT 2 - Numbers and Operations in Base Ten - Chapters 6 - 9		
Unit Summary	**NJSLS Standards**	**Essential Questions**
In this unit students will ● Understand counting ● Understand two-digit numbers ● Understand adding and subtracting tens ● Adding two digit numbers	NJSLS: Operations and Algebraic Thinking 1.OA.A.1 Use addition and subtraction within 20 to solve word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem. 1.OA.B.3 Apply properties of operations as strategies to add and subtract.3 Examples: If 8 + 3 = 11 is known, then 3 + 8 = 11 is also known. (Commutative property of addition.) To	● How do you use place value to model, read, and write numbers to 120? ● How do you use place value to compare numbers? ● How can you add and subtract two-digit numbers?

add 2 + 6 + 4, the second two numbers can be added to make a ten, so 2 + 6 + 4 = 2 + 10 = 12. (Associative property of addition.) *{Students need not use formal terms for these properties}* 1.OA.B.4 Understand subtraction as an unknown-addend problem. For example, subtract 10 – 8 by finding the number that makes 10 when added to 8.

1.OA.D.8 Determine the unknown whole number in an addition or subtraction equation relating to three whole numbers. For example, determine the unknown number that makes the equation true in each of the equations 8 + ? = 11, 5 = – 3, 6 + 6 = ?

Number and Operations in Base Ten

1.NBT.A.1 Count to 120, starting at any number less than 120. In this range, read and write numerals and represent a number of objects with a written numeral.

1.NBT.B.2 Understand that the two digits of a two-digit number represent amounts of tens and ones. Understand the following as special cases: a. 10 can be thought of as a bundle of ten ones — called a "ten." b. The numbers from 11 to 19 are

composed of a ten and one, two, three, four, five, six, seven, eight, or nine ones. c. The numbers 10, 20, 30, 40, 50, 60, 70, 80, 90 refer to one, two, three, four, five, six, seven, eight, or nine tens (and 0 ones).

1.NBT.B.3 Compare two two-digit numbers based on meanings of the tens and ones digits, recording the results of comparisons with the symbols >, =, and <.

1.NBT.C.4 Add within 100, including adding a two-digit number and a one-digit number, and adding a two-digit number and a multiple of 10, using concrete models (e.g., base ten blocks) or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used. Understand that in adding two-digit numbers, one adds tens and tens, ones and ones; and sometimes it is necessary to compose a ten.

1.NBT.C.5 Given a two-digit number, mentally find 10 more or 10 less than the number, without having to count; explain the reasoning used.

1.NBT.C.6 Subtract multiples of 10 in the range 10-90 from multiples of 10

	in the range 10-90 (positive or zero differences), using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used.	

Learning Goals:
Count on from a number ● Write numbers ● Locate two-digit numbers on a number line ● Compare two-digit numbers ● Model adding and subtracting tens ● Use a number line to show adding and subtracting tens ● Write a sum ● Explain the strategy and the sum

Fluency Expectations:
By the end of First, students can add and subtract within 10.

Modifications and Accommodations (ELL, SE, BSI, G&T, 504):
Reteach and Enrichment activities from Big Ideas Math ● Small group instruction ● Use of manipulatives, visuals, and other teaching tools ● Flexible grouping ● Check for comprehension and understanding ● Repeating, clarifying or rewording directions ● Teacher modeling of what is expected and necessary steps to complete task ● Provide student with open ended questions that stimulate higher order thinking ● Tiered assignments

Vocabulary:
120 chart ● column ● decade numbers ● digit ● ones ● ones place ● row ● tens ● tens place ● compare ● greater than ● less than ● open number line

Resources:
Math textbook - Big Ideas: Modeling Real Life
Supplemental: Counting Cubes, Ten Frame, Number Line, Smart Board,
Varied manipulatives. www.edulastic.com Inside Mathematics, online sites

UNIT 3 - Measurement and Data - Chapters 10 - 12		
Unit Summary	**NJSLS Standards**	**Essential Questions**
In this unit students will ● Understand length ● Understand data ● Understand time ● Understand money	NJSLS: Operations and Algebraic Thinking 1.OA.A.1 Use addition and subtraction within 20 to solve word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem. 1.OA.A.2: Solve word problems that call for addition of three whole numbers whose sum is less than or equal to 20, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem. Number and Operations in Base Ten 1.NBT.B.3 Compare two two-digit numbers based on meanings of the tens and ones digits, recording the results of comparisons with the symbols >, =, and <. Measurement and Data 1.M.A.1 Order three objects by length; compare the lengths of two objects indirectly by using a third object.	● How can you measure length and tell time? ● How can graphs and charts help you organize, represent and interpret data? ● How can you identify the values of coins?

	1.M.A.2 Express the length of an object as a whole number of length units, by laying multiple copies of a shorter object (the length unit) end to end; understand that the length measurement of an object is the number of same-size length units that span it with no gaps or overlaps. Limit to contexts where the object being measured is spanned by a whole number of length units with no gaps or overlaps. 1.M.B.3 Tell and write time in hours and half-hours using analog and digital clocks. 1.M.C.4. Know the comparative values of coins and all dollars (e.g., a dime is of greater value than a nickel). Use appropriate notation (e.g., 69¢, $10). 1.M.C.5 Use dollars in the solutions of problems up to $20. Find equivalent monetary values (e.g., a nickel is equivalent in value to five pennies). Show monetary values in multiple ways. For example, show 25¢ as two dimes and one nickel,and as five nickels. Show $20 as two tens and as 20 ones. Data Literacy 1.DL.A.1 Organize, represent, and interpret data with up to three	

	categories; ask and answer questions about the total number of data points, how many in each category, and how many more or less are in one category than in another.	

Learning Goals:
Compare different lengths ● Measure the length of objects Identify the value of money
Identify time on analog and digital clocks

Fluency Expectations:
By the end of First, students can add and subtract within 10.

Modifications and Accommodations (ELL, SE, BSI, G&T, 504):
Reteach and Enrichment activities from Big Ideas Math ● Small group instruction ● Use of manipulatives, visuals, and other teaching tools ● Flexible grouping ● Check for comprehension and understanding ● Repeating, clarifying or rewording directions ● Teacher modeling of what is expected and necessary steps to complete task ● Provide student with open ended questions that stimulate higher order thinking ● Tiered assignments

Vocabulary:
Length ● length unit ● longest ● measure ● shortest ● bar graph ● data ● picture graph ● tally chart ● tally mark ●analog clock ● digital clock ● half hour ● half past ● hour ● hour hand ● minute ● minute hand

Resources:
Math textbook - Big Ideas: Modeling Real Life
Supplemental: Counting Cubes, Ten Frame, Number Line, Smart Board,
Varied manipulatives. www.edulastic.com Inside Mathematics, online sites

---

UNIT 4 - Geometry - Chapters 13 & 14

Unit Summary	NJSLS Standards	Essential Questions
In this unit students will ● Understand two- and three-dimensional shapes ● Understand equal shares	NJCCCS: Geometry 1.G.A.1 Distinguish between defining attributes (e.g., triangles are closed and three-sided) versus non-defining attributes (e.g., color, orientation, overall size); build and draw shapes to possess defining attributes. 1.G.A.2 Compose two-dimensional shapes (rectangles, squares, trapezoids, triangles, half-circles, and quarter-circles) or three-dimensional shapes (cubes, right rectangular prisms, right circular cones, and right circular cylinders) to create a composite shape, and compose new shapes from the composite shape. *(Students do not need to learn formal names such as "right rectangular prism.")* 1.G.A.3 Partition circles and rectangles into two and four equal shares, describe the shares using the words halves, fourths, and quarters, and use the phrases half of, fourth of, and quarter of. Describe the whole as two of, or four of the shares. Understand for these examples that decomposing into more equal shares creates smaller shares.	● How do you sort, describe and combine three-dimensional shapes? ● How do you sort, describe and combine two-dimensional shapes? ● How do you identify and partition halves and fourths?

Learning Goals: Compare shapes ● Create shapes ● Compare shares ● Draw to show shares
Fluency Expectations: By the end of First, students can add and subtract within 10.
Modifications and Accommodations (ELL, SE, BSI, G&T, 504): Reteach and Enrichment activities from Big Ideas Math ● Small group instruction ● Use of manipulatives, visuals, and other teaching tools ● Flexible grouping ● Check for comprehension and understanding ● Repeating, clarifying or rewording directions ● Teacher modeling of what is expected and necessary steps to complete task ● Provide student with open ended questions that stimulate higher order thinking ● Tiered assignments
Vocabulary: Curved surface ● edge ● flat surface ● rectangular prism ● rhombus ● side ● three-dimensional shape ● trapezoid ● two-dimensional shape ● vertex ● equal shares ● fourth of ● fourths ● half of ● halves ● quarter of ● quarters ● unequal shares
Resources: Math textbook - Big Ideas: Modeling Real Life Supplemental: 2D Manipulative Shapes, 3D Manipulative Shapes, Smart Board, online sites