NORTHFIELD COMMUNITY SCHOOL
MATHEMATICS CURRICULUM FRAMEWORK
BOE APPROVED AUGUST 2024

GRADE : KINDERGARTEN

PACING

PACING	SEPT	OCT	NOV	DEC	JAN	FEB	MARCH	APRIL	MAY	JUNE
	Topic 1: Numbers 0-5	**Topic** 2: Compare Numbers 0-5 **Topic** 3: Numbers 6-10 **Topic** 4: Compare Numbers 0-10	**Topic** 5: Classify and Count Data	**Topic** 6: Understand Addition	**Topic** 7: Understand Subtraction **Topic** 8: More Addition and Subtraction	**Topic** 9: Count Numbers to 20 **Topic** 10: Compose and Decompose Numbers 11 to 19	**Topic** 11: Count Numbers to 100	**Topic** 12: Identify and Describe Shapes **Topic** 13: Analyze, Compare, and Create Shapes	**Topic** 14: Describe and Compare Measurable Attributes	
NJSLA Domain	Counting and Cardinality	Counting and Cardinality	Measurement and Data	Operations and Algebraic Thinking	Operations and Algebraic Thinking	Operations and Algebraic Thinking	Operations and Algebraic Thinking Number and Operations in Base Ten	Counting and Cardinality	Measurement and Data	
District Assessments	End of Year Assessment	- Formative : - Independent Classwork - Checkpoint quizzes - Summative : - Benchmark assessment Beginning/Mid/End of year - Performance Tasks - End of			MOY Assessment Fluency Practice & Assessment	- Formative : - Independent Classwork - Checkpoint quizzes - Summative : - Benchmark assessment Beginning/Mid/End of year - Performance Tasks - End of chapter assessment - CourseBenchmark– Big Ideas assessment				End of Year Assessment

		chapter assessment - Course Benchmark– Big Ideas assessment book - Alternative assessments could include a project or performance task				book - Alternative assessments could include a project or performance task				
Mathematical Practices	**Construct Arguments** MP.3 (Also, MP.2, MP.5,) **Model with Math** MP.4 (Also, MP.1, MP.3)	**Look For and Use Structure** MP.7 (Also,MP.1, MP.2, MP.5, MP.8 **Repeated Reasoning** MP.8 (Also, MP.1, MP.5)	**Critique Reasoning** MP.3 (Also, MP.2, MP.6)	**Model with Math** MP.4 (Also, MP.2, MP.3)	**Use Appropriate Tools** MP.5 (Also, MP.1, MP.6) **Reasoning** MP.2 (Also, MP.4, MP.5, MP.8)	**Reasoning** MP.2 (Also, MP.3, MP.4) **Look For and Use Structure** MP.7 (Also, MP.3, MP.8)	**Look For and Use Structure** MP.7 (Also, MP.6, MP.8)	**Precision** MP.6 (Also,MP.2, MP.3) **Make Sense and Persevere** MP.1 (Also, MP.3, MP.6)	**Precision** MP.6 (Also, MP.3, MP.5	
NJSLS Technology	8.1.2.A.1, 8.1.2.A.4, 8.1.5.A.1, 8.2.5.C.4 8.2.5.D.3	8.1.2.A.1, 8.1.2.A.4, 8.1.5.A.1, 8.2.5.C.4 8.2.5.D.3	8.1.2.A.1, 8.1.2.A.4, 8.1.5.A.1, 8.2.5.C.4 8.2.5.D.3	8.1.2.A.1, 8.1.2.A.4, 8.1.5.A.1, 8.2.5.C.4 8.2.5.D.3	8.1.2.A.1, 8.1.2.A.4, 8.1.5.A.1, 8.2.5.C.4 8.2.5.D.3	8.1.2.A.1, 8.1.2.A.4, 8.1.5.A.1, 8.2.5.C.4 8.2.5.D.3	8.1.2.A.1, 8.1.2.A.4, 8.1.5.A.1, 8.2.5.C.4 8.2.5.D.3	8.1.2.A.1, 8.1.2.A.4, 8.1.5.A.1, 8.2.5.C.4 8.2.5.D.3	8.1.2.A.1, 8.1.2.A.4, 8.1.5.A.1, 8.2.5.C.4 8.2.5.D.3	
NJSLS Career Readiness Practices	CRP2, CRP4, CRP6, CRP8, CRP11, CRP12	CRP2, CRP4, CRP6, CRP8, CRP11, CRP12	CRP2, CRP4, CRP6, CRP8, CRP11, CRP12	CRP2, CRP4, CRP6, CRP8, CRP11, CRP12	CRP2, CRP4, CRP6, CRP8, CRP11, CRP12	CRP2, CRP4, CRP6, CRP8, CRP11, CRP12	CRP2, CRP4, CRP6, CRP8, CRP11, CRP12	CRP2, CRP4, CRP6, CRP8, CRP11, CRP12	CRP2, CRP4, CRP6, CRP8, CRP11, CRP12	
9.1 Personal Financial Literacy	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.									

Standards	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 Kindergarten, instructional time should focus on two critical areas:
(1) representing and comparing whole numbers, initially with sets of objects;
(2) describing shapes and space. More learning time in Kindergarten should be devoted to number than to other topics.

(1) Students use numbers, including written numerals, to represent quantities and to solve quantitative problems, such as counting objects in a set; counting out a given number of objects; comparing sets or numerals; and modeling simple joining and separating situations with sets of objects, or eventually with equations such as 5 + 2 = 7 and 7 – 2 = 5. (Kindergarten students should see addition and subtraction equations, and student writing of equations in kindergarten is encouraged, but it is not required.) Students choose, combine, and apply effective strategies for answering quantitative questions, including quickly recognizing the cardinalities of small sets of objects, counting and producing sets of given sizes, counting the number of objects in combined sets, or counting the number of objects that remain in a set after some are taken away.
(2) Students describe their physical world using geometric ideas (e.g., shape, orientation, spatial relations) and vocabulary. They identify, name, and describe basic two dimensional shapes, such as squares, triangles, circles, rectangles, and hexagons, presented in a variety of ways (e.g., with different sizes and orientations), as well as three-dimensional shapes such as cubes, cones, cylinders, and spheres. They use basic shapes and spatial reasoning to model objects in their environment and to construct more complex shapes.

KINDERGARTEN GRADE OVERVIEW:
Counting and Cardinality
- Know number names and the count sequence.
- Count to tell the number of objects.
- Compare numbers.

Operations and Algebraic Thinking
- Understand addition as putting together and adding to, and understand subtraction as taking apart and taking from.

Number and Operations in Base Ten

- Work with numbers 11–19 to gain foundations for place value.

Measurement and Data

- Describe and compare measurable attributes.
- Classify objects and count the number of objects in categories.

Geometry

- Identify and describe shapes.
- Analyze, compare, create, and compose shapes.

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 - Chapters 1, 2, 3, 4 & 5		
Unit Summary	**NJSLS Standards**	**Essential Questions**
In this unit students will ● Understand counting ● Understand grouping ● Understand numbers ● Understand categories ● Understand partner numbers	ounting and Cardinality K.CC.A.1 Count to 100 by ones and by tens. K.CC.A.3 Write numbers from 0 to 20. Represent a number of objects with a written numeral 0-20 (with 0 representing a count of no objects). K.CC.B.4 Write numbers from 0 to 20. Represent a number of objects with a written numeral 0-20 (with 0 representing a count of no objects). K.CC.B.5 Count to answer “how many?” questions about as many as 20 things arranged in a line, a rectangular array, or a circle, or as many as 10 things in a scattered configuration; given a number from 1–20, count out that many objects. K.CC.C.6 Identify whether the number	● How can you show numbers 0-10? ● How can you count numbers 0-10? ● How can you group numbers 0-10? ● How can you compose and decompose numbers 0-10? ● How can you understand and compare numbers 0-10?

	of objects in one group is greater than, less than, or equal to the number of objects in another group, e.g., by using matching and counting strategies. (*Include groups with up to ten objects.*) K.CC.C.7 Compare two numbers between 1 and 10 presented as written numerals. Operations and Algebraic Thinking K.OA.A.1 Represent addition and subtraction up to 10 with objects, fingers, mental images, drawings, sounds (e.g., claps), acting out situations, verbal explanations, expressions, or equations. K.OA.A.3 Decompose numbers less than or equal to 10 into pairs in more than one way, e.g., by using objects or drawings, and record each decomposition by a drawing or equation (e.g., 5 = 2 + 3 and 5 = 4 + 1).	

Learning Goals:
Order numbers ● Write numbers ● Compare groups ● Draw groups of objects ● Classify objects into categories ● Tell how many objects are in a category ● Compare with parts of numbers ● Model taking apart numbers

Fluency Expectations:
By the end of Kindergarten, Students can Add and Subtract within 5

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 ● equal sign ● join ● plus sign ● addition sentence ● in all ● pattern ● left ● separate ● subtraction sentence ● minus sign ● subtract ● take away
Resources: Math textbook -Big Ideas: Modeling Real Life Supplemental: Counting Cubes, Number Line, Ten Frame, Smart Board, varied manipulatives, online sites

UNIT 2 Algebra and Functions - Chapters 6 & 7		
Unit Summary	**NJSLS Standards**	**Essential Questions**
In this unit students will ● Understand Addition patterns ● Understand Subtraction	Counting and Cardinality K.CC.A.1 Count to 100 by ones and by tens. K.CC.A.3 Write numbers from 0 to 20. Represent a number of objects with a written numeral 0-20 (with 0 representing a count of no objects). K.CC.B.4 Understand the relationship between numbers and quantities; connect counting to cardinality. Operations and Algebraic Thinking K.OA.A.1 Represent addition and subtraction up to 10 with objects, fingers, mental images, drawings,	● How can you show addition within 10? ● How can you show subtraction within 10? ● How can you understand addition and subtraction patterns? ● How can you form addition sentences? ● How can you form subtraction sentences?

	sounds (e.g., claps), acting out situations, verbal explanations, expressions, or equations. K.OA.A.2 Solve addition and subtraction word problems, and add and subtract within 10, e.g., by using objects or drawings to represent the problem. K.OA.A.3 Decompose numbers less than or equal to 10 into pairs in more than one way, e.g., by using objects or drawings, and record each decomposition by a drawing or equation (e.g., 5 = 2 + 3 and 5 = 4 + 1). K.OA.A.4 For any number from 1 to 9, find the number that makes 10 when added to the given number, e.g., by using objects or drawings, and record the answer with a drawing or equation K.OA.A.5 Demonstrate fluency for addition and subtraction within 5.	

Learning Goals:

- Write an addition sentence ● Explain addition sentences ● Write a subtraction sentence ● Explain subtraction sentences

Fluency Expectations:

By the end of Kindergarten, Students can Add and Subtract within 5

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 ● equal sign ● join ● plus sign ● addition sentence ● in all ● pattern ● left ● separate ● subtraction sentence ● minus sign ● subtract ● take away
Resources: Math textbook - Big Ideas: Modeling Real Life Supplemental: Counting Cubes, Number Line, Ten Frame, Smart Board, varied manipulatives, online sites

UNIT 3 - Numbers and Operations- Base Ten - Chapters 8, 9 & 10		
Unit Summary	**NJSLS Standards**	**Essential Questions**
In this unit students will ● Understand numbers ● Understand counting ● Understand counting to 100	Counting and Cardinality K.CC.A.1 Count to 100 by ones and by tens. K.CC.A.2: Count forward beginning from a given number within the known sequence (instead of having to begin at 1). K.CC.A.3 Write numbers from 0 to 20. Represent a number of objects with a written numeral 0-20 (with 0 representing a count of no objects). K.CC.B.4 Understand the relationship between numbers and quantities; connect counting to cardinality. K.CC.B.5 Count to answer “how	● How can you show, count, and write numbers to 20 and beyond? ● How can you describe numbers as a group? ● How can you name numbers to 20? ● How can you compare numbers to 20? ● How can you count to 100 by ones and by tens?

	many?” questions about as many as 20 things arranged in a line, a rectangular array, or a circle, or as many as 10 things in a scattered configuration; given a number from 1–20, count out that many objects. Number and Operations in Base Ten K.NBT.A.1 1 Compose and decompose numbers from 11 to 19 into ten ones and some further ones, e.g., by using objects or drawings, and record each composition or decomposition by a drawing or equation (e.g., 18 = 10 + 8); understand that these numbers are composed of ten ones and one, two, three, four, five, six, seven, eight, or nine ones.	

Learning Goals:

- Write numbers ● Count objects ● Show numbers with objects ● Order numbers ● Describe numbers on a chart ● Explain counting numbers with patterns

Fluency Expectations:

By the end of Kindergarten, Students can Add and Subtract within 5

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:

- twenty ● column ● hundred ● decade number ● row

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

UNIT 4 - Geometry, Measurement, Data, and Probability - Chapters 11, 12 & 13		
Unit Summary	**NJSLS Standards**	**Essential Questions**
In this unit students will ● Understand two dimensional shapes ● Understand three dimensional shapes ● Understand measurement	Measurement and Data K.M.A.1 Describe measurable attributes of objects, such as length or weight. Describe several measurable attributes of a single object K.M.A.2 Directly compare two objects with a measurable attribute in common, to see which object has "more of"/"less of" the attribute, and describe the difference. For example, directly compare the heights of two children and describe one child as taller/shorter. K.M.B.3 Understand that certain objects are coins and dollar bills, and that coins and dollar bills represent money. Identify the values of all US coins and the one dollar bill K.DL.A.1 Classify objects into given categories; count the number of objects in each category and sort the categories by count. (*Limit category*	● How can you identify, name and describe two- and three-dimensional shapes? ● How can you build two- and three-dimensional shapes? ● How can you describe and compare the height and weight of objects? ● How can you measure and compare objects? ● How can you identify the value of coins?

	counts to be less than or equal to 10) Geometry K.G.A.1 Describe objects in the environment using names of shapes, and describe the relative positions of these objects using terms such as above, below, beside, in front of, behind, and next to. K.G.A.2 Correctly name shapes regardless of their orientations or overall size. K.G.A.3 Identify shapes as two-dimensional (lying in a plane, “flat”) or three-dimensional (“solid”). K.G.B.4 Analyze and compare two- and three-dimensional shapes, in different sizes and orientations, using informal language to describe their similarities, differences, parts (e.g., number of sides and vertices/“corners”) and other attributes (e.g., having sides of equal length) K.G.B.5 Model shapes in the world by building shapes from components (e.g., sticks and clay balls) and drawing shapes. K.G.B.6 . Compose simple shapes to form larger shapes. For example, “Can you join these two triangles with full sides touching to make a rectangle?”	

Learning Goals:

- Compare two-dimensional shapes ● Build two-dimensional shaped ● Compare three-dimensional shapes ● Build

three-dimensional shapes ● Compare the capacities of objects ● Compare the heights of objects

Fluency Expectations:
By the end of Kindergarten, Students can Add and Subtract within 5

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:

- circle ● curve ● hexagon ● rectangle ● side ● sort ● square ● triangle ●above ● below ● beside ● cone ● cube ● curved surface ● cylinder ● flat surface ● in front of ● next to ● roll ● slide ● sphere ● stack ● three-dimensional shape ● balance scale ● capacity ● heavier ● height ● length ● lighter ● longer ● measurable attribute ● shorter ● taller ● weight

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