NORTHFIELD COMMUNITY SCHOOL
MATHEMATICS CURRICULUM FRAMEWORK
BOE APPROVED AUGUST 2024

GRADE : 3

PACING

PACING	MP 1	MP 2	MP 3	MP 4
	Topic: Understand Multiplication and Division Multiplication Facts and Strategies More Multiplication Facts and Strategies Division Facts and Strategies	Topic: Understanding estimation Understanding addition and subtraction properties Understanding multiples	Topic: Understanding fractions Understand time and measurement	Topic: Understand two-dimensional shapes. Understand data. Understand perimeter and area
NJSLS Domain	3.0A.A.1, 3.OA.A.3, 3.OA.B.5, 3.OA.A.2, 3.OA.A.3, 3.OA.A.4, 3.OA.C.7, 3.OA.D.9, 3.OA.B.5, 3.OA.A.3, 3.OA.A.4, 3.OA.C.7, 3.OA.B.5, 3.OA.A.2, 3.OA.A.3, 3.OA.A.4, 3.OA.B.6, 3.OA.C.7, 3.OA.B.5	3.NF.A.1, 3.NF.A.2, 3.NF.A.3, 3.OA.D.8, 3.NBT.A.1, 3.NBT.A.2, 3.NBT.A.3	3.NF.A.1, 3.NF.A.2.a, b, 3.NF.A.3.a, b, 3.NF.A.3.c, d, 3.G.A.2, 3.MD.A.1 3.MD.A.2, 3.NF.A.3	3.OA.A.3, 3.OA.C.7, 3.NBT.A.2, 3.MD.B.3, 3.MD.B.4, 3.MD.C.5.A, 3.MD.C.6, 3.MD.C.7.B, 3.MD.D.8
District Assessments	Big Ideas Chapter 1-4 Tests Course Benchmark 1 Test	Big Ideas Chapter 5-9 Tests Course Benchmark 2 Test	Big Ideas Chapter 10-12 Tests Course Benchmark 3 Test	Big Ideas Chapter 13-15 Tests Post Course Benchmark Test

NJSLS Technology	8.1.5.DA.3, 8.1.2.AP.1	8.1.5.DA.3, 8.1.2.AP.1	8.1.5.DA.3, 8.1.2.AP.1	8.1.5.DA.3, 8.1.2.AP.1
NJSLS Career Readiness Practices	9.1.2.CR.1, 9.1.5.CR.1, 9.1.5.FL.1, 9.1.5.FP.1, 9.1.5.FP.3, 9.1.5.FP.4, 9.1.5.PB.1, 9.1.5.PB.2	9.1.2.CR.1, 9.1.5.FL.1, 9.1.5.FP.1, 9.1.5.FP.3, 9.1.5.FP.4, 9.1.5.PB.1, 9.1.5.PB.2	9.1.5.CR.1, 9.1.5.FL.1, 9.1.5.FP.1, 9.1.5.FP.3, 9.1.5.FP.4, 9.1.5.PB.1, 9.1.5.PB.2	9.1.5.CR.1, 9.1.5.FL.1, 9.1.5.FP.1, 9.1.5.FP.3, 9.1.5.FP.4, 9.1.5.PB.1, 9.1.5.PB.2
9.1 Personal Financial Literacy Standards	9.1.2.CR.1, 9.1.5.CR.1, 9.1.5.FL.1, 9.1.5.FL.3, 9.1.5.FL.4, 9.1.5.PB.1, 9.1.5.PB.2	9.1.5.CR.1, 9.1.5.FL.1, 9.1.5.FP.1, 9.1.5.FP.3, 9.1.5.FP.4, 9.1.5.PB.1, 9.1.5.PB.2	9.1.5.CR.1, 9.1.5.FL.1, 9.1.5.FP.1, 9.1.5.FP.3, 9.1.5.FP.4, 9.1.5.PB.1, 9.1.5.PB.2	9.1.5.CR.1, 9.1.5.FL.1, 9.1.5.FP.1, 9.1.5.FP.3, 9.1.5.FP.4, 9.1.5.PB.1, 9.1.5.PB.2

Mathematics in Grade 3, instructional time should focus on four critical areas:
(1) developing understanding of multiplication and division and strategies for multiplication and division within 100;
(2) developing understanding of fractions, especially unit fractions (fractions with numerator 1);
(3) developing understanding of the structure of rectangular arrays and of area; and
(4) describing and analyzing two-dimensional shapes.

(1) Students develop an understanding of the meanings of multiplication and division of whole numbers through activities and problems involving equal-sized groups, arrays, and area models; multiplication is finding an unknown product, and division is finding an unknown factor in these situations. For equal-sized group situations, division can require finding the unknown number of groups or the unknown group size. Students use properties of operations to calculate products of whole numbers, using increasingly sophisticated strategies based on these properties to solve multiplication and division problems involving single-digit factors. By comparing a variety of solution strategies, students learn the relationship between multiplication and division.
(2) Students develop an understanding of fractions, beginning with unit fractions. Students view fractions in general as being built out of unit fractions, and they use fractions along with visual fraction models to represent parts of a whole. Students understand that the size of a fractional part is relative to the size of the whole. For example, 1/2 of the paint in a small bucket could be less paint than 1/3 of the paint in a larger bucket, but 1/3 of a ribbon is longer than 1/5 of the same ribbon because when the ribbon is divided into 3 equal parts, the parts are longer than when the ribbon is divided into 5 equal parts. Students are able to use fractions to represent numbers equal to, less than, and greater than one. They

solve problems that involve comparing fractions by using visual fraction models and strategies based on noticing equal numerators or denominators.
(3) Students recognize area as an attribute of two-dimensional regions. They measure the area of a shape by finding the total number of same size units of area required to cover the shape without gaps or overlaps, a square with sides of unit length being the standard unit for measuring area. Students understand that rectangular arrays can be decomposed into identical rows or into identical columns. By decomposing rectangles into rectangular arrays of squares, students connect area to multiplication, and justify using multiplication to determine the area of a rectangle.
(4) Students describe, analyze, and compare properties of two-dimensional shapes. They compare and classify shapes by their sides and angles, and connect these with definitions of shapes. Students also relate their fraction work to geometry by expressing the area of part of a shape as a unit fraction of the whole.

GRADE 3 OVERVIEW:
Operations and Algebraic Thinking
- Represent and solve problems involving multiplication and division.
- Understand properties of multiplication and the relationship between multiplication and division.
- Multiply and divide within 100.
- Solve problems involving the four operations, and identify and explain patterns in arithmetic.

Number and Operations in Base Ten
- Use place value understanding and properties of operations to perform multi digit arithmetic.

Number and Operations—Fractions
- Develop understanding of fractions as numbers.

Measurement and Data
- Solve problems involving measurement and estimation of intervals of time, liquid volumes, and masses of objects.
- Represent and interpret data.
- Geometric measurement: understand concepts of area and relate area to multiplication and to addition.
- Geometric measurement: recognize perimeter as an attribute of plane figures and distinguish between linear and area measures.

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		
Unit Summary	**NJSLS Standards**	**Essential Questions**
Understanding multiplication and division Understanding multiplication strategies Understanding division strategies Understanding patterns Understand area Understand estimation	3.OA.A.1, 3.OA.A.2, 3.OA.A.3, 3.OA.A.4, 3.OA.B.5, 3.OA.B.6, 3.OA.C.7, 3.OA.D.8, 3.OA.D.9, 3.NBT.A.2 F, 3.MD.C.5, 3.MD.C.6, 3.MD.C.7	How do you use strategies to multiply? How can you use multiplication to find how many in all? How can you use multiplication facts, place value, and properties to solve multiplication? How can you use division to find how many in each group or how many equal groups? How do you use strategies to divide? How can you use multiplication to find area of shapes?
Learning Goals: Compare multiplication to division. Model multiplication and division problems. Make a plan to solve a problem. Solve a division problem. Identify a pattern. Explain a pattern in a multiplication table. Connect patterns to the multiplication table. Identify the area of a shape. Explain how to find the area of a shape. Compare the area of one shape to another. Find the total area of a shape. Solve a problem. Round numbers. Estimate the difference between numbers.		
Fluency Expectations: Use Equal Groups to Multiply, Use Number Lines to Multiply, Use Arrays to Multiply, Multiply in Any Order, Divide: Size of Equal Groups, Divide: Number of Equal Groups, Use Number Lines to Divide Multiply by 2, Multiply by 5, Multiply by 0 or 1, Use the Distributive Property, Problem Solving: Multiplication, Multiply by 3, Multiply by 4, Multiply by 5, Multiply by 6, Multiply by 7, Multiply by 8, Multiply by 9, Practice Multiplication Strategies, Multiply Three Factors, More Problem Solving: Multiplication Use Arrays to Divide, Relate Multiplication & Division, Divide by 2,5, or 10, Divide by 3 or 4, Divide by 6 or 7, Divide by 8 or 9, Divide by 0 or 1, Practice Division Strategies, Problem Solving: Division, Identify Patterns in the Multiplication Table, Use the Multiplication Table, More Problem Solving, Relate Area to Multiplication, Understand Area, Measure Area Using Standard Units, Find Area by Multiplying, Area and the Distributive Property, Find Areas of More Shapes		
Modifications and Accommodations (ELL, SE, BSI, G&T, 504): Daily Skills Practice, Vocabulary Practice, Prerequisite Skills Practice, Extra Practice, Reteach, Enrich and Extension, Vocabulary Cards, Differentiating a Lesson Worksheets, ELL strategies infused in Big Ideas Teacher Edition, Online Big Ideas Multi-Language Glossary, Big Ideas Video Tutorials, Online Skills Trainer, Small group instruction, Use of manipulatives, visuals, and other teaching tools, Flexible grouping/centers, 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, Tier 2 Math Intervention		

Vocabulary: Vocabulary Practice, Vocabulary Cards
Resources: Big Ideas: Modeling Real Life Rocket Math IXL Math Manipulatives

UNIT 2		
Unit Summary	**NJSLS Standards**	**Essential Questions**
Understanding estimation Understanding addition and subtraction properties Understanding multiples	3.NF.A.1, 3.NF.A.2, 3.NF.A.3, 3.OA.D.8, 3.NBT.A.1, 3.NBT.A.2, 3.NBT.A.3	How can you apply strategies to add and subtract whole numbers? How can you add and subtract whole numbers and decide if the answer is reasonable? How can you use estimation to solve problems?
Learning Goals: Identify the values of different numbers. Explain how to round numbers. Round numbers. Estimate the difference between numbers. Identify properties of addition. Explain what addition properties mean. Count on and count back to problem solve. Solve a problem. Skip count. Describe the pattern when multiplying. Make a plan to solve a problem.		
Fluency Expectations: Identify Addition Properties, Use Number Lines to Add, Use Mental Math to Add, Use Partial Sums to Add, Add Three-Digit Numbers, Add Three-Digit Numbers, Use Number Lines to Subtract, Use Mental Math to Subtract, Subtract Three-Digit Numbers, Relate Addition and Subtraction, Problem Solving: Addition and Subtraction, Use Number Lines to Multiply by Multiples of 10, Use Place Value to Multiply by Multiples of 10, Use Properties to Multiply by Multiples of 10, Problem Solving: Multiplication and Division Problem Solving: All Operations		
Modifications and Accommodations (ELL, SE, BSI, G&T, 504): Daily Skills Practice, Vocabulary Practice, Prerequisite Skills Practice, Extra Practice, Reteach, Enrich and Extension, Vocabulary Cards, Differentiating a Lesson Worksheets, ELL strategies infused in Big Ideas Teacher Edition, Online Big Ideas Multi-Language Glossary, Big Ideas Video Tutorials, Online Skills Trainer, Small group instruction, Use of manipulatives, visuals, and other teaching tools, Flexible grouping/centers, 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, Tier 2 Math Intervention		
Vocabulary: Vocabulary Practice, Vocabulary Cards		

Resources: Big Ideas: Modeling Real Life
Rocket Math
IXL Math
Manipulatives

UNIT 3		
Unit Summary	**NJSLS Standards**	**Essential Questions**
Understanding fractions	3.NF.A.1, 3.NF.A.2.a, b, 3.NF.A.3.a, b, 3.NF.A.3.c, d, 3.G.A.2	How can you use fractions to describe how much or how many? How can you compare fractions? How can you use a number line to find fractions?
Learning Goals: Name equal parts. Identify a unit fraction. Write a fraction. Plot a fraction. Define a fraction. Find fractions on a number line. Explain how to use a number line to find fractions. Compare fractions on a number line.		
Fluency Expectations: Understand a Unit Fraction, Write Fractions of a Whole, Fractions on a Number Line: Less Than 1, Fractions on a Number Line: Greater Than 1, Equivalent Fractions, Equivalent Fractions on a Number Line, Relate Fractions and Whole Numbers, Compare Fractions with the Same Denominator, Compare Fractions with the Same Numerator, Compare Fractions on a Number Line, Compare and Order Fractions		
Modifications and Accommodations (ELL, SE, BSI, G&T, 504): Daily Skills Practice, Vocabulary Practice, Prerequisite Skills Practice, Extra Practice, Reteach, Enrich and Extension, Vocabulary Cards, Differentiating a Lesson Worksheets, ELL strategies infused in Big Ideas Teacher Edition, Online Big Ideas Multi-Language Glossary, Big Ideas Video Tutorials, Online Skills Trainer, Small group instruction, Use of manipulatives, visuals, and other teaching tools, Flexible grouping/centers, 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, Tier 2 Math Intervention		
Vocabulary: Vocabulary Practice, Vocabulary Cards		
Resources: Big Ideas: Modeling Real Life Rocket Math IXL Math Manipulatives		

UNIT 4		
Unit Summary	**NJSLS Standards**	**Essential Questions**
Understand time and measurement	3.MD.A.1, 3.MD.A.2 , 3.NF.A.3	How can you tell time and use measurement to describe the size of something? How can you solve problems including perimeter and area?
Learning Goals: Explain how to tell time to the nearest minute. Find the appropriate way to measure an object. Solve time interval problems. Compare one measurement to another		
Fluency Expectations: Time to the Nearest Minute, Measure Elapsed Time within the Hour, Measure Elapsed Time Across the Hour, Problem Solving: Time Interval Problems, Understand and Estimate Liquid Volume, Measure Liquid Volume, Understand and Estimate Mass Measure		
Modifications and Accommodations (ELL, SE, BSI, G&T, 504): Daily Skills Practice, Vocabulary Practice, Prerequisite Skills Practice, Extra Practice, Reteach, Enrich and Extension, Vocabulary Cards, Differentiating a Lesson Worksheets, ELL strategies infused in Big Ideas Teacher Edition, Online Big Ideas Multi-Language Glossary, Big Ideas Video Tutorials, Online Skills Trainer, Small group instruction, Use of manipulatives, visuals, and other teaching tools, Flexible grouping/centers, 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, Tier 2 Math Intervention		
Vocabulary: Vocabulary Practice, Vocabulary Cards		
Resources: Big Ideas: Modeling Real Life Rocket Math IXL Math Manipulatives		

UNIT 5		
Unit Summary	**NJSLS Standards**	**Essential Questions**
Understand two-dimensional shapes. Understand data. Understand perimeter and area	3.OA.A.3, 3.OA.C.7, 3.NBT.A.2, 3.MD.B.3, 3.MD.B.4, 3.MD.C.5.A, 3.MD.C.6, 3.MD.C.7.B, 3.MD.D.8	What are some ways to describe and classify two-dimensional shapes? How can you represent and interpret data?
Learning Goals: Define two-dimensional shapes. Explain different shapes and their features. Compare one shape to another. Draw a shape. Identify a tool to collect data. Create a tally chart to make a graph. Represent data in different ways. Interpret data in different ways. Identify the perimeter of a shape. Describe the area of a shape. Compare the area and perimeter of a shape. Find the area and perimeter of a shape		
Fluency Expectations: Identify Sides and Angles of Quadrilaterals, Describe Quadrilaterals, Classify Quadrilaterals, Draw Quadrilaterals, Represent and Interpret Data, Read and Interpret Picture Graphs, Make Picture Graphs, Read and Interpret Bar Graphs, Make Bar Graphs, Make Line Plots, Measure Lengths: Half Inch, Measure Lengths: Quarter Inch, Find Perimeter and Area, Understand Perimeter, Find Perimeters of Polygons, Find Unknown Side Lengths, Same Perimeter, Different Areas, Same Area, Different Perimeters		
Modifications and Accommodations (ELL, SE, BSI, G&T, 504): Daily Skills Practice, Vocabulary Practice, Prerequisite Skills Practice, Extra Practice, Reteach, Enrich and Extension, Vocabulary Cards, Differentiating a Lesson Worksheets, ELL strategies infused in Big Ideas Teacher Edition, Online Big Ideas Multi-Language Glossary, Big Ideas Video Tutorials, Online Skills Trainer, Small group instruction, Use of manipulatives, visuals, and other teaching tools, Flexible grouping/centers, 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, Tier 2 Math Intervention		
Vocabulary: Vocabulary Practice, Vocabulary Cards		
Resources: Big Ideas: Modeling Real Life Rocket Math IXL Math Manipulatives		