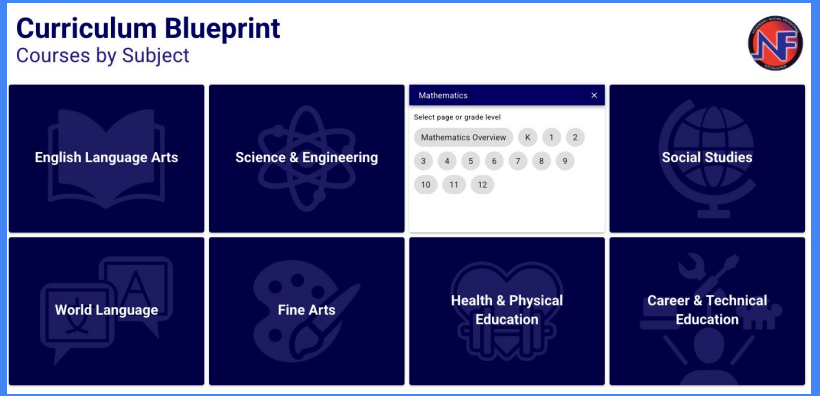
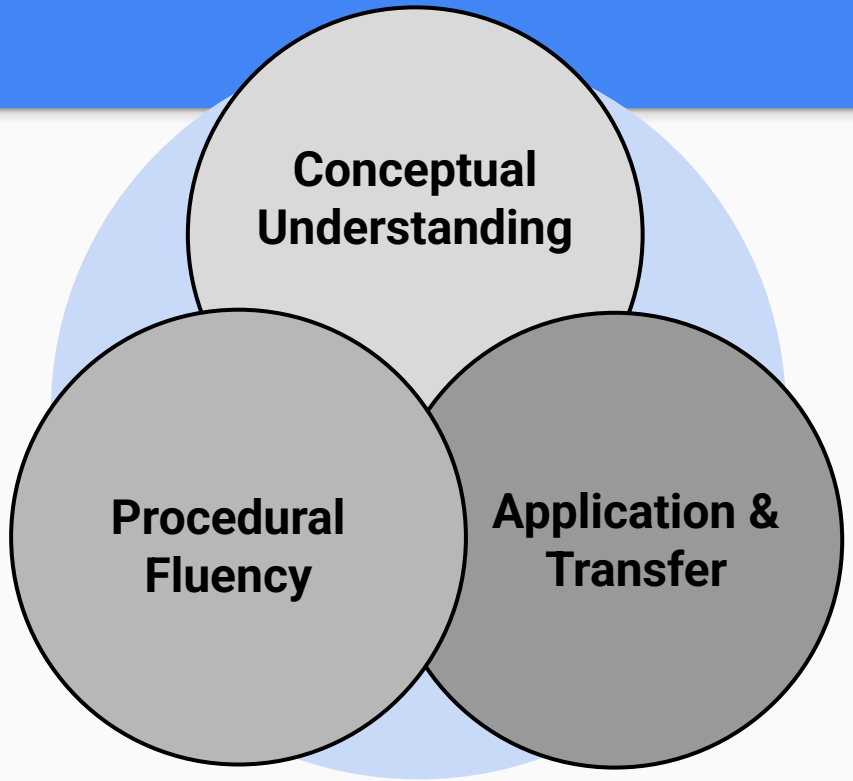
K-5 Mathematics Update

Board of Education Curriculum Subcommittee
New Fairfield Public Schools
March 23, 2026



About Mathematics Proficiency



K-5 Mathematics in New Fairfield Public Schools

The K-5 mathematics program in New Fairfield Public Schools develops students' proficiency in the realm of number, geometry, data, measurement, probability, patterns, and algebra. Mathematics involves not merely computation, but also problem solving, estimating, reasoning, representing ideas, making connections, and communicating mathematical ideas clearly.

Across the K-5 years, our students grow to:

- **Understand and apply mathematical concepts and skills to a range of situations and problems.**
- **Compute with ease, fluency, and understanding.**
- **Explain and communicate their reasoning and mathematical thinking.**

This vision of mathematics proficiency drives curriculum, instruction, and assessment in the K-5 mathematics program of New Fairfield Public Schools. Students in New Fairfield Public Schools develop concepts, skills, and processes related to each of the areas of mathematics through grade-level curriculum units. Embedded within each unit of study are opportunities to apply concepts and skills to complex problem-solving situations and communicate mathematical thinking. Assessments that assess concepts and skills, problem-solving, computational fluency, and basic facts are administered throughout the year to monitor student progress towards grade-level learning expectations.

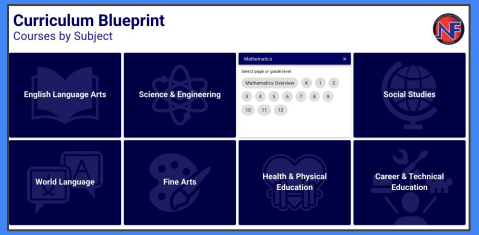
Some thoughts about basic facts . . .

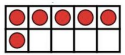
One component of mathematics proficiency is fluency with basic facts. Fluency with basic facts entails **efficiency, automaticity, and accuracy.** Developing robust, meaningful strategies is an essential piece of basic facts instruction in the classroom to support connections that aid in the recall of facts. For instance, if you know 4+4=8, then you know 4+5 is just one more, or 9; similarly, if you know 8x3=24, then you know that 8x6 is double that, or 48. The strategy and relationships provide a mental path from the fact to the answer.

The timing and purpose of drill for basic facts is critical. Once students have understandings of operations and relationships between facts, then drill plays an important role in supporting fact mastery and automaticity. Drill should be used **when students have an efficient mental**

8-25

Conceptual Understanding





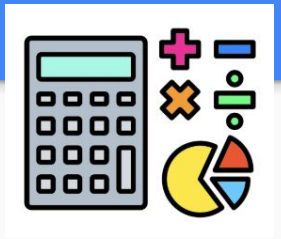
Kindergarten Overview

Mathematics - Kindergarten

The kindergarten mathematics curriculum develops students' mathematical concepts and skills while fostering mathematical reasoning and problem solving, modeling, and communication. Emphasis is placed on developing number sense, counting skills, and modeling addition and subtraction operations to problem solve with real-world contexts.

Students will understand, know, and be able to:

- Demonstrate rote counting up to 30 with one-to-one correspondence and accuracy of number sequence.
- Accurately indicate quantity ("how many" of a set) and compare two sets of objects using the terms "more," "less," and "equal".
- Identify numbers that are 1 more or 1 less than a given number.
- Understand that numbers can be composed of smaller parts and model combinations of numbers that make 5 and 10.
- Model addition and subtraction operations using concrete and pictorial representations.
- Develop foundational understanding of place value by counting groups of tens and ones (using ten-frames).
- Fluently add and subtract within 5.
- Sort two-dimensional and three-dimensional shapes based on their geometric features.
- Measure using comparisons and non-standard units and recognize measurable attributes of objects.



Grade 1 Unit of Study

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Unit 7: One Hundred and Beyond

Students develop deep understanding of place value within 0-120 by representing numbers using groups of 1s, 10s, and 100s through concrete models like bundles of sticks. They learn to add and subtract 2-digit numbers by splitting them into tens and ones, using visual models and sketches to support their thinking. Students practice skip-counting patterns on number line paths and games, building fluency with adding and subtracting multiples of 10 as a foundation for more complex computation strategies.

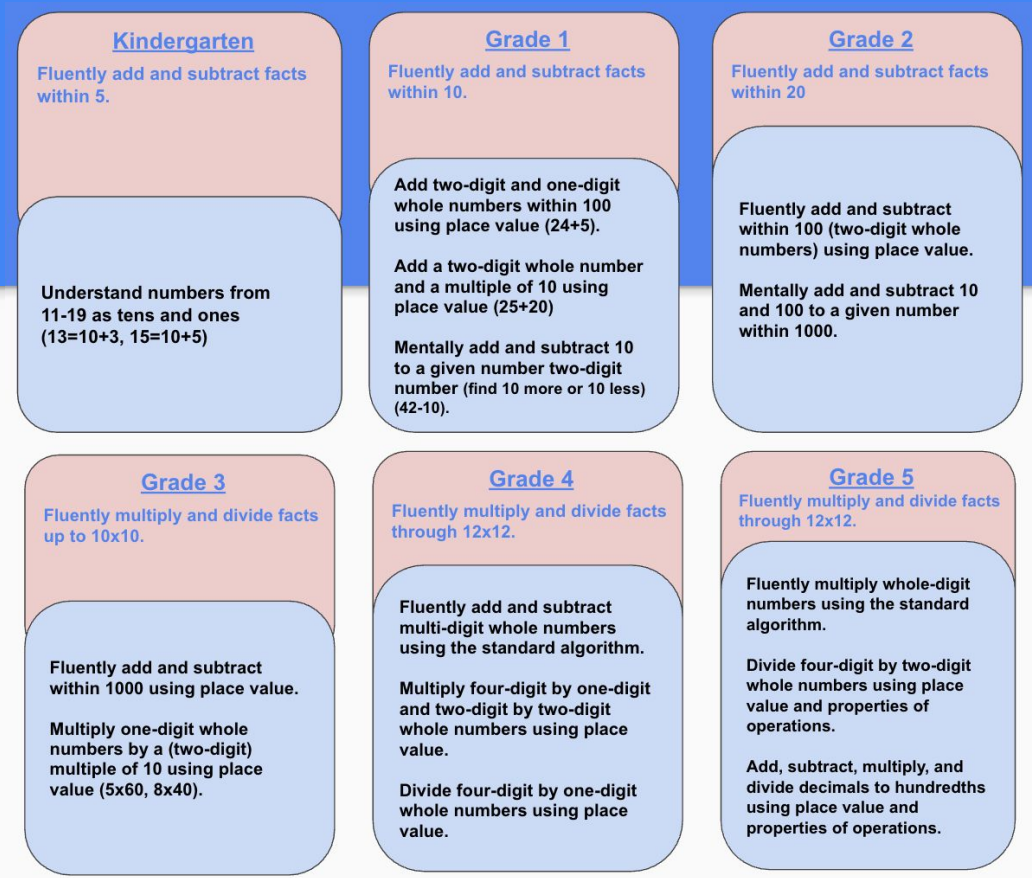
2

Unit 2: Introduction to Multiplication

Students explore multiplication concepts through arrays, skip counting, number lines, and ratio tables as they solve story problems involving equal groups. They develop strategies for multiplication facts through 10 × 10, using visual models like stamp arrays and partially hidden objects to build understanding of multiplicative relationships. Students learn to represent multiplication problems in multiple ways and develop efficient mental strategies for calculating products.

Grade 3 Unit of Study

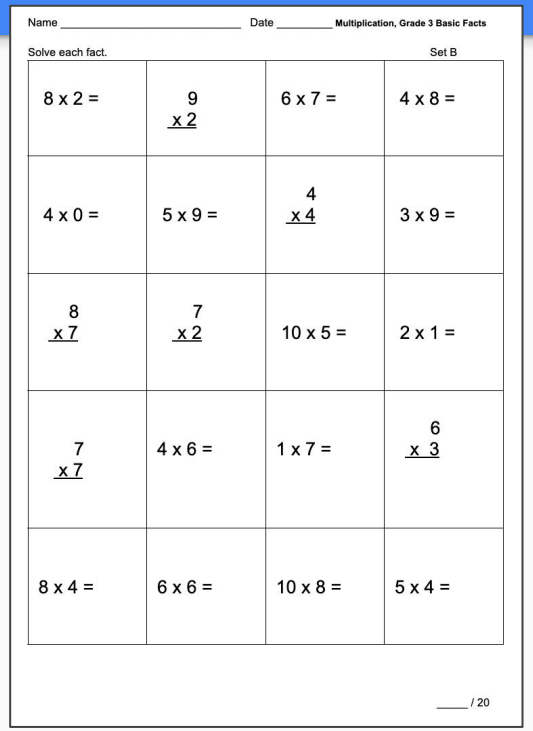
Procedural Fluency



Grade Level Fact Fluency Expectations

By the end of	Basic Fact Expectations
Kindergarten	Fluently add and subtract within 5
Grade 1	Fluently add and subtract within 10
Grade 2	Fluently add and subtract within 20
Grade 3	Fluently multiply and divide within 100 (10x10)
Grade 4	Fluently multiply and divide within 144 (12x12)
Grade 5	Fluently multiply and divide within 144 (12x12)

Grade Level
Basic Fact Quick Checks



Name _____ Date _____ **Multiplication, Grade 3 Basic Facts**

Solve each fact. Set B

8 x 2 =	9 x 2	6 x 7 =	4 x 8 =
4 x 0 =	5 x 9 =	4 x 4	3 x 9 =
8 x 7	7 x 2	10 x 5 =	2 x 1 =
7 x 7	4 x 6 =	1 x 7 =	6 x 3
8 x 4 =	6 x 6 =	10 x 8 =	5 x 4 =

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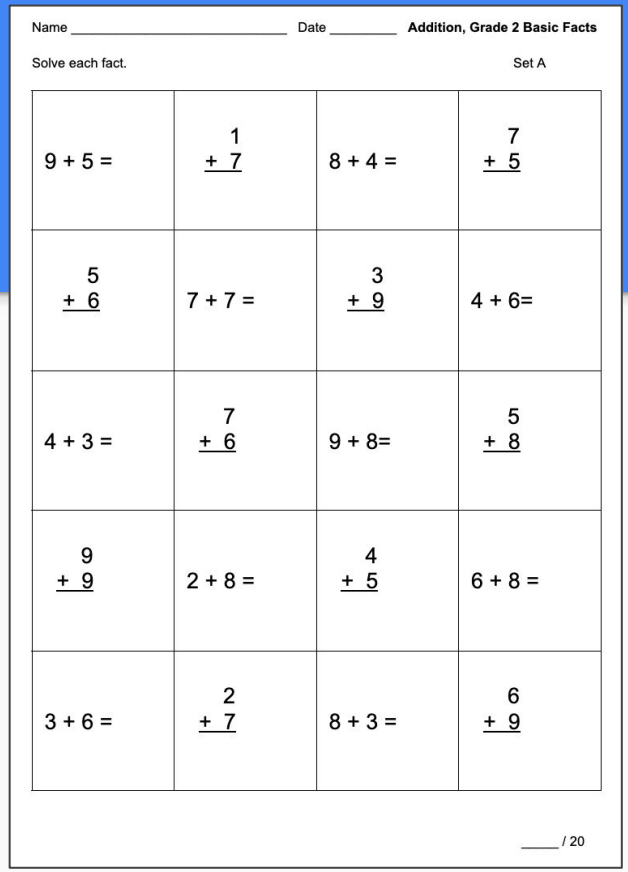

Name _____ Date _____ **Addition, Grade 2 Basic Facts**

Solve each fact. Set A

9 + 5 =	1 + 7	8 + 4 =	7 + 5
5 + 6	7 + 7 =	3 + 9	4 + 6=
4 + 3 =	7 + 6	9 + 8=	5 + 8
9 + 9	2 + 8 =	4 + 5	6 + 8 =
3 + 6 =	2 + 7	8 + 3 =	6 + 9

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Grade Level Computation Checks

Name _____ **Date** _____ **Computation Set B, Grade 2**

Solve each problem below.

91 - 10 = _____	151 – 100 **a. 41** **c. 141** **b. 51** **d. 50**	273 + 10 **a. 283** **c. 280** **b. 274** **d. 270**	81 + 9
28 + 63 = ____ **a. 90** **c. 91** **b. 89** **d. 71**	47 + 33 = ____ **a. 77** **c. 81** **b. 80** **d. 79**	97 – 20 **a. 107** **c. 75** **b. 57** **d. 77**	36 + 17 = ____ **a. 53** **c. 52** **b. 54** **d. 50**
54 + 26 = _____		45 – 19 = _____	

Raw score =_____/ 10; Performance = _____%

Application & Transfer:

Problem Solving, Mathematical Communication, and Vertical Boards

Cookie Order

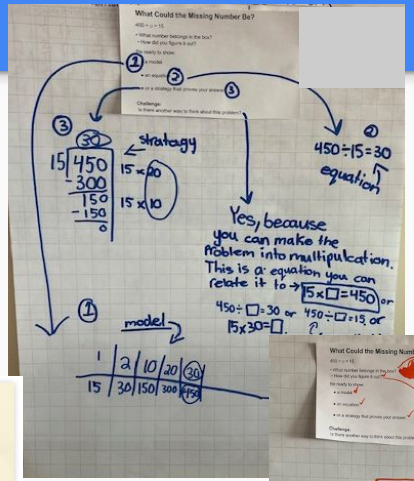
Sweet T is in the Bake Stars' kitchen.
He takes notes about a cookie order.

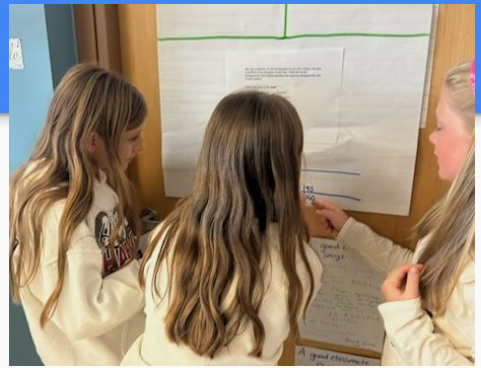
Cookie Order

- Make between 400 and 500 cookies.
- Make chocolate chip, peanut butter, and oatmeal cookies.
- Make the same number of each kind of cookie.

How many of each kind of cookie should the Bake Stars make? Show why your numbers work.

Grade 2





Cookie Boxes

Sweet T is packing an order of 145 chocolate chip cookies. The pictures below show the different-size boxes there are at the shop. Each box holds a different number of cookies.

How can Sweet T pack the cookies?

Water Shrubs

G.O. and his neighbors clear an area $8\frac{1}{2}$ feet by $6\frac{1}{4}$ feet to plant the shrubs. Now they have to decide how many shrubs to plant and how much water to use on the shrubs. Read G.O.'s planting instructions.

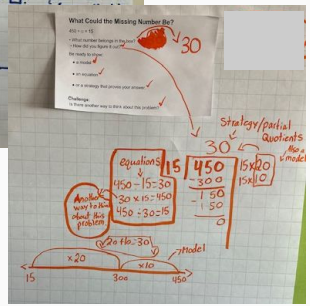
Shrub Planting Instructions

- Each shrub needs an area of about 2 square feet.
- Each shrub will need about $1\frac{1}{4}$ gallons of water a week.

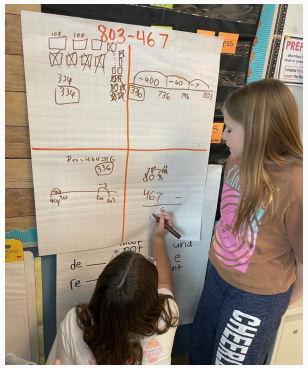
How many shrubs should G.O. plant?

How much water will the shrubs need?

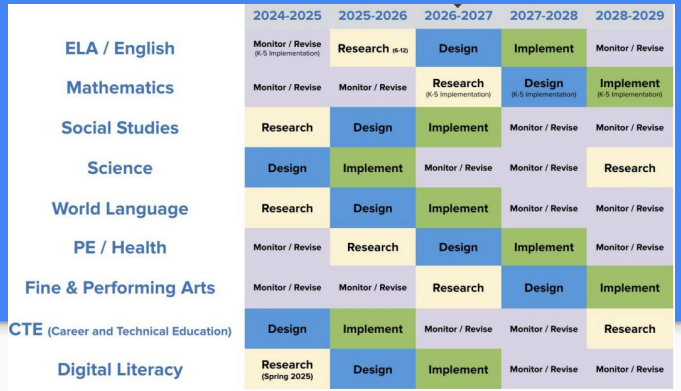
Grade 5



Grade 4



Monitoring & Revising



	2024-2025	2025-2026	2026-2027	2027-2028	2028-2029
ELA / English	Monitor / Revise (K-5 Implementation)	Research (6-12)	Design	Implement	Monitor / Revise
Mathematics	Monitor / Revise	Monitor / Revise	Research (K-5 Implementation)	Design (K-5 Implementation)	Implement (K-5 Implementation)
Social Studies	Research	Design	Implement	Monitor / Revise	Monitor / Revise
Science	Design	Implement	Monitor / Revise	Monitor / Revise	Research
World Language	Research	Design	Implement	Monitor / Revise	Monitor / Revise
PE / Health	Monitor / Revise	Research	Design	Implement	Monitor / Revise
Fine & Performing Arts	Monitor / Revise	Monitor / Revise	Research	Design	Implement
CTE (Career and Technical Education)	Design	Implement	Monitor / Revise	Monitor / Revise	Research
Digital Literacy	Research (Spring 2025)	Design	Implement	Monitor / Revise	Monitor / Revise

- Continue to expand vertical board protocols and instructional practices to build critical thinking, problem solving, and mathematical communication skills (Mathematical Practice Standards)

- Revise unit assessments to enhance transfer of concepts and skills