

MATHEMATICS COMMON CORE CURRICULUM UNIT #1 Grade 2*

North Smithfield Public Schools

TITLE OF UNIT: Add and subtract within 100—Understand place value to 1000

GRADE : 2

DATE PRESENTED: _____ **DATE DUE:** _____ **LENGTH OF TIME:** @7weeks

OVERVIEW OF UNIT:

In this unit students will Read, write and compare numbers up to 1,000. They will also count, skip count and solve addition and subtraction word problems with and without regrouping.

ESSENTIAL QUESTIONS

- *How are addition and subtraction related?*
- *How might different strategies be helpful when solving a problem?*
- *How does your model represent your mathematical thinking?*
- *How does a digit's position affect its value?*
- *How might you use place value to compare two or more quantities?*

STANDARDS: Common Core Math Standards – Grade level domains K-5

Counting and Cardinality CC	Operations and Algebraic Thinking OA	Number and Operations in Base Ten NBT	Number and Operations – Fractions NF	Measurement and Data MD	Geometry G
<input type="checkbox"/>	<input type="checkbox"/> 2.OA.1	<input type="checkbox"/> 2.NBT.1, 2, 3, 4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Modeling with Geometry G-MG	<input type="checkbox"/>

STANDARDS: Mathematical Practices grades K-12

- | | | | | | | | |
|---|---|--|-----------------------------|--|------------------------|---------------------------------------|--|
| 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 |
|---|---|--|-----------------------------|--|------------------------|---------------------------------------|--|

FOCUS MATHEMATICS STANDARDS:

- Represent and solve problems involving addition and subtraction. **2.OA.1**
- Understand place value. **2.NBT.1, 2, 3, 4**

Applied Learning Standards:

problem solving
 communication
 critical thinking
 research
 reflection/ evaluation

ENDURING UNDERSTANDING:

At the end of this unit students will be able to read, write and compare numbers up to 1,000 as well as be able to fluently solve addition and subtraction problems, including word problems.

PRIOR KNOWLEDGE:

- Count fluently to 120
- Read, write, recognize, and compare numbers through 120.
- Count by numbers, such as multiples of 10.
- Add numbers within 100

STUDENT OBJECTIVES, SKILLS and/or NEW KNOWLEDGE:

- Some addition and subtraction problems may require two-steps to solve. Sometimes the answer to one problem is needed to find the answer to another problem or question.
- The unknown can be represented algebraically with a symbol (a box, a blank, or a question mark, NOT a letter at this grade level) and pictorially to solve all types of addition and subtraction situations.
- Students' modeling of story problems helps them figure out what operation is involved in a problem, regardless of the size of the numbers.
- Estimating is an important tool to determine the reasonableness of an answer.
- Two digit numbers can be broken apart using tens and ones and added and subtracted in different ways.

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- 10 ones can be regrouped for 1 ten.
- 10 tens can be regrouped for one 100.
- The position of digits in numbers determines their value.
- Numbers can be used to tell how many.
- Three-digit numbers decompose into units of hundreds, tens and ones.
- The position of digits in numbers determines their value.
- Place value can be used to compare two or more quantities.

SUGGESTED PROBLEMS:

2. OA.1 Basic

- <http://www.illustrativemathematics.org/standards/k8> (Pencil & Sticker)

2. OA.1 Advanced

2. OA.2 Fluently add and subtract within 20 using mental strategies. By end of Grade 2; know from memory all sums of two one-digit numbers. Use strategies such as (from grade 1):

- 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 $12 - 8 = 4$);
- creating equivalent but easier or known sums (e.g., adding $6 + 7$ by creating the known equivalent $6 + 6 + 1 = 12 + 1 = 13$).

ACTIVITIES, PRODUCTS, PERFORMANCE, and ASSESSMENTS:

- | | | | |
|---------------------------------------|----------------------------|--|---|
| 1. Application to real world problems | 6. Graphic organizers | 14. Problem/Performance based/common tasks | 18. Technology |
| 2. Creating charts/collecting data | 7. Graphing | 15. Real-life applications involving graphing | 19. Summarizing and note-taking |
| 3. Collaboration - interpersonal | 8. Interviews | 16. Represent numbers | 20. Tests and quizzes |
| 4. Conferencing | 9. Journals | 17. Rubrics/checklists (mathematical practice, modeling) | 21. Writing genres Arguments/ opinion Informative |
| 5. Exhibits | 10. KWL charts | | |
| | 11. Mathematical Practices | | |
| | 12. Modeling ★ | | |
| | 13. Oral presentations | | |

HIGHER ORDER THINKING SKILLS: Web's Depth of Knowledge 2 – 4 or Bloom's Taxonomy

Web's Depth of Knowledge

- skill/conceptual understanding
- strategic reasoning
- extended reasoning

Bloom's Taxonomy

- apply
- analyze
- synthesize/create
- evaluate

ADDITIONAL RESOURCES: see curriculum for specifics

- 2.OA.1 *enVisions* SE/TE: Lessons 1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 1-7, 2-1, 2-2, 2-3, 2-4, 2-5, 2-7, 3-1, 3-2, 3-3, 3-4, 3-5, 3-6, 4-4, 8-9, 9-9
- 2.NBT.1 *enVisions* SE/TE: Lessons 5-1, 5-2
- 2.NBT.1.a *enVisions* SE/TE: Lessons 10-1,10-3
- 2.NBT.1.b *enVisions* SE/TE: Lessons 10-1,10-2, 10-3
- 2.NBT.2 *enVisions* SE/TE: Lessons 5-4, 6-6, 10-1, 10-5, 10-6, 10-9
- 2.NBT.3 *enVisions* SE/TE: Lessons 5-1, 5-2, 10-2, 10-3
- 2.NBT.4 *enVisions* SE/TE: Lessons 5-3,10-7, 10-8, 10-9

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VOCABULARY

OA

- Addend
 - Addition sentence
 - Area model
 - Array
 - Composing
 - Decomposing
 - Difference
 - Doubles
 - Equals
 -
- Even
 - Fact families
 - Factor
 - Fewer
 - Mental math
 - Minuend
 - Minus
 - More
 - Multiplication
- Odd
 - Part
 - Product
 - Regroup
 - Strategy
 - Subtraction sentence
 - Sum

NBT

- After
 - Before
 - Between
 - Equal to
- Greater than
 - Greatest
 - Least
 - Less than
- Number word
 - Pattern

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LESSON PLAN for UNIT _____

LESSONS

- Lesson #1** Summary:

- Lesson #2** Summary:

- Lesson #3** Summary:

OBJECTIVES for LESSON # _____

- Materials/Resources:**

- Procedures:**
 - **Lead -in**

 - **Step by step**

 - **Closure**

- Instructional strategies:** see curriculum introduction

- Assessments:** see curriculum introduction
 - **Formative**

 - **Summative**