

Freetown Lakeville Public Schools

Grade 1 Mathematics Unit Guide

8/20/2002

Grade 1 Mathematics Curriculum Guideline

Unit: Addition and Subtraction

Topic:

Student Learning Objectives

- 30107** Demonstrate an understanding of addition as combination (plus, combined with, more); subtraction as separation (how much remaining).
- 30108** Understand and use the inverse relationship between addition and subtraction (e.g., fact families up to 12) to solve problems and check solutions.
- 30109** Solve addition facts (addends to ten) and related subtraction facts, and use them to solve problems.
- 30110** Demonstrate the ability to add and subtract two-digit numbers (with no renaming/trading/regrouping) accurately.
- 30111** Use conventional strategies for adding (two 2-digit numbers) and subtracting (two 2-digit numbers).
- 30112** Describe differences between estimates and actual calculations.
- 30117** Solve open sentences that have missing numbers, e.g., $__ + 7 = 10$.
- 30118** Write number sentences using +, -, = to represent mathematical relationships in everyday situations.

Textbook References, Resources and Materials

- pp 63-76
pp 99-118
pp 141-152
pp 177-184
pp 187-196
AW-SF Chapter 3, Section A and B
- pp 445 - 450 TM
AW-SF Chapter 6, Lesson 6-6, 6-7, 6-9
- pp 197-198
AW-SF Chapter 4 and Chapter 12
- pp 557-560
pp 567-570
AW-SF Chapter 13, Section A and B
- pp 557-560
pp 567-570
AW-SF Chapter 13, Section A and B
- AW-SF Chapter 6, Lesson 6-10
- pp 57-58 TM
pp 135-136 TM
AW-SF Chapter 2, Lesson 2-9
- pp 62-66 TM
pp 107-108 TM
pp 111-112 TM
p 123
pp 140-144 TM
p 298 TM
AW-SF Chapter 3, Lesson 3-2, 3-8



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Suggested Instructional Strategies

30107, 30108 Seasonal magnetic shapes used on a white board to combine sets as an introduction to addition. Shapes can also be used to demonstrate and solve subtraction sentences.
Use number tiles to create and solve addition and subtraction facts.
To discover "family of facts" for a given number, place two-color counters in a cup. Spill onto desk and record fact (i.e., house of "10").
Use dominoes to represent combinations of sets. Write addition and subtraction facts represented by dominoes.
Give each child a "top secret" addition fact. They build the fact using unifix cubes of two colors. Children move from desk to desk solving facts and recording on a sheet. Use clipboards if available.
30117 Use estimating jars of various objects. Estimate and then count to find actual amount.
30109 Drama - Children will act out story problems using props to solve addition and subtraction sentences.

Assessment

Understanding of Concept: Appropriate strategy is used; explanation (either oral or written) is clear and shows complete understanding of concept.
Shows work: Solution is visible; process is shown, is complete and is correct; information shown is relevant.
Accuracy: Answer is correct and complete.
Organization: Answer is legible; problem structure (set-up) and alignment is correct.

Refer to rubrics on AW-SF p 91 and p 107

Grade 1 Mathematics Curriculum Guideline

Unit: Classifying, Sorting and Graphing

Topic:

Student Learning Objectives

- 30133** Use interviews, surveys, and observations to gather data about themselves and their surroundings.
- 30134** Organize, classify, represent, and interpret data using tallies, charts, tables, bar graphs, pictographs, and Venn diagrams; interpret the representations.

Textbook References, Resources and Materials

p 69 TM
p 71 TM
AW-SF Chapter 1 Section C

pp 71-72
pp 77-78
pp 119-120
pp149-150
pp153-154
p 253
pp 275-276
pp 281-282
pp 313-314
pp 439-440
pp 489-490

AW-SF p31A, Lessons 1-12, 1-13, 1-14

Suggested Instructional Strategies

Assessment

Understanding of Concept: Appropriate strategy is used; explanation (either oral or written) is clear and shows complete understanding of concept.

Organization: Answer is legible; problem structure (set-up) and alignment is correct.

Refer to rubric on AW-SF p 227

Refer to rubrics on AW-SF pp 33, 35, 37

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Unit: Fractions

Topic:

Student Learning Objectives

- 30103** Identify and represent common fractions ($\frac{1}{2}$, $\frac{1}{3}$, $\frac{1}{4}$) as parts of wholes, parts of groups.
- 30124** Identify symmetry in two-dimensional shapes.

Textbook References, Resources and Materials

pp 475-480 TM
AW-SF Chapter 5, Lesson 5-8, 5-9, 5-10, 5-11

pp 219-224 TM
AW-SF Chapter 5, Lesson 5-5

Suggested Instructional Strategies

PProblem of the Day 5-10
Literature - Eating Fractions
Pizza Game - cut paper plates into $\frac{1}{2}$, $\frac{1}{4}$
Cut paper squares and rectangles into $\frac{1}{2}$, $\frac{1}{4}$
Use Sky Bars and Kit-Kat Bars to visualize $\frac{1}{2}$, $\frac{1}{4}$
Make Playdough snakes cut into $\frac{1}{3}$'s
Use graham crackers to divide into $\frac{1}{2}$, $\frac{1}{4}$ rectangles
Cut a trapezoid into $\frac{1}{3}$'s using triangles
Have children notice things in the classroom that are shown in equal parts - window panes, shelves, bookcases. Make a list with a partner of all the things they find.

Assessment

Shows work: Solution is visible; process is shown, is complete and is correct; information shown is relevant.
Understanding of Concept: Appropriate strategy is used; explanation (either oral or written) is clear and shows complete understanding of concept.
Organization: Answer is legible; problem structure (set-up) and alignment is correct.

Refer to rubric on AW-SF p 201

Grade 1 Mathematics Curriculum Guideline

Unit: Measurement

Topic:

Student Learning Objectives

- 30102** Identify and distinguish among multiple uses of numbers, including cardinal (to tell how many) and ordinal (to tell which one) numbers, and numbers as labels and as measurements.
- 30104** Compare whole numbers using terms, e.g., less than, equal to, greater than
- 30112** Describe differences between estimates and actual calculations.
- 30129** Compare the length and weight of two or more objects by using direct comparison.
- 30130** Measure and compare common objects using metric and English units of length measurement, e.g., centimeter, inch.
- 30131** Select and correctly use the appropriate measurement tools, e.g., ruler, balance scale.
- 30132** Make and use estimates when measuring length or weight.
- 30135** Formulate inferences (draw conclusions) and make educated guesses (conjectures) about a situation based on information gained from data.

Textbook References, Resources and Materials

- pp 262-264 TM
AW-SF Chapter 7, Lesson 7-9
- pp 273-274 TM
pp 317-318 TM
AW-SF Chapter 2, Lesson 2-6, Section B
- AW-SF Chapter 6, Lesson 6-10
- pp 229-230 TM
pp 403-404 TM
AW-SF Chapter 11, Lesson 11-2
- pp 237-242 TM
AW-SF Chapter 11, Lesson 11-3, 11-4, 11-5
- p 237 TM
p 239 TM
p 403TM
AW-SF Chapter 11, Lesson 11-7, 11-13
- pp 241-242 TM
pp 403-404 TM
AW-SF Chapter 11, Lesson 11-13
- pp 485-490 TM
AW-SF Chapter 5, Section B, Lessons 5-12, 5-13, 6-5



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Suggested Instructional Strategies

Use non-standard units of measure (hand shapes, paper clips, unifix cubes) to measure objects in the room (door, bulletin board, desk, etc.).
Read Inch by Inch by Leo Lionni to introduce measuring by inches.
Trace colored oaktag shapes. Measure sides of shapes using inch rulers or centimeter rulers. Color shape to match pattern. Record inches or centimeters on sides of shapes.
Mystery Picture - Place dots on a sheet which will make a picture when connected. Label each dot with a letter. Instruct children to draw a line from A to B and measure the line. Continue until mystery picture is completed.
Trace hands. Measure fingers with inch ruler first. Measure fingers with centimeter rulers. Compare inches to centimeters.
Use a balance scale to compare the weights of two different objects.

Assessment

Shows work: Solution is visible; process is shown, is complete and is correct; information shown is relevant.
Accuracy: Answer is correct and complete.
Understanding of Concept: Appropriate strategy is used; explanation (either oral or written) is clear and shows complete understanding of concept.
Organization: Answer is legible; problem structure (set-up) and alignment is correct.

Refer to rubric on AW-SF p 203, 409

Grade 1 Mathematics Curriculum Guideline

Unit: Money

Topic:

Student Learning Objectives

- 30106** Identify the name and value of all U.S. coins and a \$1 bill. Add collections of dimes, nickels and pennies up to \$1.

Textbook References, Resources and Materials

pp 31-32 TM
pp 277-280 TM
pp 344-364 TM
AW-SF Chapter 9, Section A and B

Suggested Instructional Strategies

Use magnetic money on white board to introduce coins and their values.
Use large magnetic money to count groups of coins.
Set up counting stations using real money. Place money in resealable baggies.
Money puzzles to match two sides of coins and their values.
Create a store where students earn coins for appropriate behavior. They can redeem them at the classroom store.
Use coins to count by 5's and 10's.

Assessment

Shows work: Solution is visible; process is shown, is complete and is correct; information shown is relevant.
Accuracy: Answer is correct and complete.
Understanding of Concept: Appropriate strategy is used; explanation (either oral or written) is clear and shows complete understanding of concept.
Refer to rubric on AW-SF p 333

Grade 1 Mathematics Curriculum Guideline

Unit: Number Sense

Topic:

Student Learning Objectives

- 30101** Name and write (in numerals) whole numbers to 100.
- 30101** Identify the place values of digits.
- 30101** Order numbers to 100.
- 30102** Identify and distinguish among multiple uses of numbers, including cardinal (to tell how many) and ordinal (to tell which one) numbers, and numbers as labels and as measurements.
- 30104** Compare whole numbers using terms, e.g., less than, equal to, greater than
- 30105** Identify odd and even numbers and determine whether a set of objects has an odd or even number of elements.
- 30114** Identify different patterns on the hundreds chart (e.g. twos, fives, tens).
- 30116** Skip count by twos, fives, and tens up to at least 50.
- 30135** Formulate inferences (draw conclusions) and make educated guesses (conjectures) about a situation based on information gained from data.

Textbook References, Resources and Materials

- pp 315-316 TM
AW-SF Chapter 8, Lesson 8-1, 8-8
- pp 315-316 TM
AW-SF Chapter 8, Lesson 8-1, 8-8
- pp 315-316 TM
AW-SF Chapter 8, Lesson 8-1, 8-8
- pp 262-264 TM
AW-SF Chapter 7, Lesson 7-9
- pp 273-274 TM
pp 317-318 TM
AW-SF Chapter 2, Lesson 2-6, Section B
- pp 257 - 258 TM
AW-SF Chapter 2, Lesson 2-7
- pp 315-316 TM
AW-SF Chapter 7, Lesson 7-9, 7-10
- pp 303-304 TM
pp 319-322 TM
AW-SF Chapter 7, Lesson 7-7, 7-8
- pp 485-490 TM
AW-SF Chapter 5, Section B, Lessons 5-12, 5-13, 6-5



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Suggested Instructional Strategies

30116 Children stand in a circle. Count by 10's to 100. Child who gets 100 must sit down. Continue until there is one child standing (may also be used for 2's and 5's).
Color code number chart (100).
Play "I'm thinking of a number with 3 tens and 4 ones." Name that number. Children write them on individual white boards.
Use large numbered foam dice to determine which number is greater than or less than.

Assessment

Understanding of Concept: Appropriate strategy is used; explanation (either oral or written) is clear and shows complete understanding of concept.

Shows work: Solution is visible; process is shown, is complete and is correct; information shown is relevant.

Organization: Answer is legible; problem structure (set-up) and alignment is correct.

Accuracy: Answer is correct and complete.

Refer to rubric on AW-SF p 313

Refer to rubrics on AW-SF pp 65, 67, 71, 73, 203

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Unit: Patterns

Topic:

Student Learning Objectives

- 30101** Name and write (in numerals) whole numbers to 100.
Identify the place values of digits.
Order numbers to 100.
- 30104** Compare whole numbers using terms, e.g., less than, equal to, greater than
- 30105** Identify odd and even numbers and determine whether a set of objects has an odd or even number of elements.
- 30113** Identify, reproduce, describe, extend, and create simple rhythmic, shape, size, number, color, and letter repeating patterns.
- 30114** Identify different patterns on the hundreds chart (e.g. twos, fives, tens).
- 30116** Skip count by twos, fives, and tens up to at least 50.

Textbook References, Resources and Materials

- pp 315-316 TM
AW-SF Chapter 8, Lesson 8-1, 8-8
- pp 273-274 TM
pp 317-318 TM
AW-SF Chapter 2, Lesson 2-6 Section B
- pp 257 - 258 TM
AW-SF Chapter 2, Lesson 2-7
- pp 29-30
pp 41-42
pp 323-324
pp 409-410
AW-SF Chapter 5, Lesson 5-1
- pp 315-316 TM
AW-SF Chapter 7, Lesson 7-9, 7-10
- pp 303-304 TM
pp 319-322 TM
AW-SF Chapter 7, Lesson 7-7, 7-8

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Suggested Instructional Strategies

Practice counting objects by twos (eyes), fives (hands), and tens (toes).
Read Ways to Count to Ten

Assessment

Shows work: Solution is visible; process is shown, is complete and is correct; information shown is relevant.

Accuracy: Answer is correct and complete.

Understanding of Concept: Appropriate strategy is used; explanation (either oral or written) is clear and shows complete understanding of concept.

Organization: Answer is legible; problem structure (set-up) and alignment is correct.

Refer to rubrics on AW-SF p 313

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Unit: Shapes

Topic:

Student Learning Objectives

- 30113** Identify, reproduce, describe, extend, and create simple rhythmic, shape, size, number, color, and letter repeating patterns.
- 30120** Describe attributes and parts of two-dimensional shapes, e.g., length of sides, number of corners, and sides.
- 30121** Identify, describe, draw, and compare two-dimensional shapes, including both polygonal (up to six sides) and curved figures such as circles.
- 30122** Recognize identical/congruent shapes.
- 30124** Identify symmetry in two-dimensional shapes.

Textbook References, Resources and Materials

pp 29-30
pp 41-42
pp 323-324
pp 409-410
AW-SF Chapter 5, Lesson 5-1

pp 219-228 TM
AW-SF Chapter 5, Lesson 5-1, Section A

pp 219-224 TM
AW-SF Chapter 5, Lesson 5-2, Section A

p 221 TM
AW-SF Chapter 5, Lesson 5-4

pp 219-224 TM
AW-SF Chapter 5, Lesson 5-5

Suggested Instructional Strategies

Pattern wall (shapes)
Geoboards
Trace and label over dotted shaped paper
Pattern blocks
Tangrams/matching congruent shapes
Recognize geometric shapes within the classroom
Sort shapes by attributes
Create art projects using symmetry

Assessment

Shows work: Solution is visible; process is shown, is complete and is correct; information shown is relevant.

Accuracy: Answer is correct and complete.

Understanding of Concept: Appropriate strategy is used; explanation (either oral or written) is clear and shows complete understanding of concept.

Organization: Answer is legible; problem structure (set-up) and alignment is correct.

Grade 1 Mathematics Curriculum Guideline

Unit: Time

Topic:

Student Learning Objectives

- 30127** Identify parts of the day (e.g., morning, afternoon, evening), days of the week, and months of the year. Identify dates using a calendar.
- 30128** Tell time at hour and half-hour intervals on analog and digital clocks.

Textbook References, Resources and Materials

pp 313-314 TM
AW-SF Chapter 10, Lesson 10-1, 10-9

pp 385-394 TM
AW-SF Chapter 10, Lesson 10-2, 10-3, 10-4

Suggested Instructional Strategies

Teacher/student Judy clocks
Student-made clocks
Hands-on activities

Assessment

Understanding of Concept: Appropriate strategy is used; explanation (either oral or written) is clear and shows complete understanding of concept.

Accuracy: Answer is correct 80% of the time.