

Understanding by Design: MHSD 193

Designer Name(s): 2nd Grade Team

Date: 6.4.14

Subject Area: Mathematics

Grade Level(s): 2

Unit Title/Focus: Lessons 51-60

Estimated Amount of Instructional Time: ~12 Days

Stage 1 – (Desired Results)

State Content and Skill Standards:

- CC.K-12.MP.1, 2, 4, 5, 6 & 7
- 2.NBT.2. Count within 1000; skip-count by 5s, 10s, and 100s.
- 2.NBT.5. Fluently add and subtract within 100 using strategies based on place value
- 2.NBT.6. Add up to four two-digit numbers using strategies based on place value
- 2.NBT.7. Add and subtract within 1000, using concrete models or drawings
- 2.NBT.9. Explain why addition and subtraction strategies work
- 2.OA.2. Fluently add and subtract within 20 using mental strategies.
- 2.MD.1. Measure rulers, yardsticks, meter sticks, and measuring tapes.
- 2.MD.2. Measure the length of an object twice, using length units of different lengths
- 2.MD.3. Estimate lengths using units of inches, feet, centimeters, and meters.
- 2.MD.5. Use addition and subtraction within 100 to solve word problems involving lengths
- 2.MD.6. Represent whole numbers as lengths from 0 on a number line diagram
- 2.MD.9. Generate measurement data by measuring lengths of several objects to the nearest whole unit
- 2.G.1. Recognize and draw shapes having specified attributes, angles or equal faces.¹ Identify triangles, quadrilaterals, pentagons, hexagons, and cubes.

Enduring Understandings: *(what are the big ideas, what are the specific understandings desired)*

Students will understand:

- Coins are used to count amounts of money
- The associative property of addition allows the grouping of addends together in any way we would like when we add
- A polygon can be identified by its number of sides and angles.

Essential Questions: *(what questions will foster inquiry, understanding, and transfer of learning)*

- How can I find out how much a collection of coins is worth?
- What strategy can I use to add a list of numbers?
- How do I describe plane figures such as rectangles, pentagons, and hexagons?

Big Idea(s)

**Use place value understand and properties of operations to add and subtract.
Reason with shapes and their attributes.**

What Students will know: *(what knowledge will they acquire)*

- Dimes, Nickels, and Pennies are counted by 10's, 5's & 1's.
- A Line of Symmetry divides identical halves.
- A Symmetrical Design has identical halves.
- Dimes and Pennies may represent addition problems with two-digit numbers.
- Addition Facts
- A ruler = 1 foot
- Elements of a Number Line
- Line segments begin at 0" on a ruler.
- Points may be plotted on number lines.
- Geoboards may be used to create polygons.
- Polygons have angles where two sides meet.
- Three or more Single digit addends may be added together.
- Definition of the Associative Property of Addition
- Sets can be comprised of fractional parts.

What Students will be able to do: *(what will they eventually be able to do as a result of their skills learned/knowledge)*

- Count Dimes, Nickels, and Pennies
- Identify a Line of Symmetry
- Create a Symmetrical Design
- Add Two-Digit Numbers Using Dimes and Pennies
- Mentally compute addition facts with Sums of 15, 16, 17, and 18
- Measure to the Nearest Foot
- Draw a Number Line
- Draw Line Segments to the Nearest Inch
- Locate Points on a Number Line
- Make Polygons on a Geoboard
- Identify the Angles of a Polygon
- Add Three or More Single-Digit Numbers
- Identify the Associative Property of Addition
- Name a Fractional Part of a Set

<ul style="list-style-type: none"> •Subtraction facts •Drawing a Picture can be used to Solve a Problem • Patterns can be used to Solve a Problem • Definition of Congruent Shapes <p>Vocabulary: <i>angle, associative property of addition, congruent, feet, foot, line of symmetry, line segment, minus, number line, symmetrical</i></p>	<ul style="list-style-type: none"> •Mentally subtract 0 •Draw a Picture to Solve a Problem when appropriate •Use Patterns to Solve a Problem when appropriate •Identify and Create Congruent Shapes
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Stage 2 - Assessment Evidence (acceptable assessment evidence that students understand)

<p><i>Performance Tasks: (what authentic performance task (s) will students demonstrate understanding; by what criteria will it be judged?)</i></p> <p><i>Worksheet 60B:</i></p> <ul style="list-style-type: none"> • DeAnna wants to make a necklace with a blue, yellow, red, yellow repeating pattern. She will use 12 beads to make her necklace. Show how many of each color bead she will need. 	<p><i>Other Evidence: (quizzes, tasks, academic prompts, homework, observations)</i></p> <p>Fact Assessment 10</p> <ul style="list-style-type: none"> • Review facts; sums of 13 & 14 <p>Written Assessment 10</p> <ul style="list-style-type: none"> • SSM story (+10); writes number sentence; solves • Logic problem; ordinal position to 5th • Identifies temperature to nearest 10 degrees • Measures line segment using inches • Number patterns: even numbers, odd numbers • Adds 10 to a two-digit number <p>Fact Assessment 11</p> <ul style="list-style-type: none"> • Doubles <p>Written Assessment 11</p> <ul style="list-style-type: none"> • SSM story (+10); writes number sentence; solves • Counts, draws tally marks • Counts money (nickels) • Colors fractional parts of a whole $\frac{3}{4}$, $\frac{5}{8}$, $\frac{1}{2}$ • Compares, orders three two digit numbers • Writes dates using digits, words <p>Oral Assessment 6</p> <ul style="list-style-type: none"> • Making up Addition and Subtraction Stories
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Stage 3 - Learning Plan (sequence of teaching and learning activities that will produce desired understandings, engagement and development) Use WHERETO elements to help you:

<p><i>Learning Activities:</i></p> <p>Math Meetings 51 through 60-2</p> <ul style="list-style-type: none"> • Calendar • Attendance graph • Temperature • Counting • Problem of the day • Clock • Pattern • Number of the day • Money • Fact family • Secret Number <p>New Concepts 51 through 60-2</p> <ul style="list-style-type: none"> • State objective • Explicit Instruction • Guided Practice • Written Practice • Recap: "Who would like to share something they learned in math today?"
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- Homework
- Test-Taking Strategies Practice 8 (for use after Lesson 55)
- Identifying a Figure with a Line of Symmetry
 - Identifying an Appropriate
 - Ordering Two-Digit Numbers
- Test-Taking Strategies Practice 9 (for use after Lesson 60)
- Identifying Missing Numbers on a Number Line
 - Estimating the Length of an Object
 - Identifying the Number of Angles in a Figure
- Journal Writing
- Write about your symmetrical design. What does it look like? Give it a title. (After lesson 52)
 - Write a some, some more story about using dimes and pennies. (After lesson 54)
 - If you were an inch tall, how would life be different? (After lesson 56)
 - Draw a polygon robot. What does your robot do? (After lesson 57)
 - Write a fraction that describes our class. Explain what each number means in your fraction. (After lesson 59).
- *Math Center Activities 41-49
 *Extend and Challenge Activity 5
 *Differentiated Instruction Activities 51 through 60-2

*if needed

W=help the students know WHERE the unit is going and WHAT is expected/Help teacher to know where the students are coming from (prior knowledge, interests)

H=HOOK all students and hold their interest

E=EQUIP students, help them EXPERIENCE the key ideas and EXPLORE the issue

R=Provide opportunities to RETHINK and REVISE their understanding/work

E (2)=Allow students to EVALUATE their work

T=Be TAILORED (personalized) to different needs, interests, and abilities of learners

O=Be ORGANIZED to maximize initial and sustained engagement as well as effective learning

Assessment Tasks that Provide Evidence for Claims including DOK	<input type="checkbox"/> Claim #1/DOK 1, 2, 3, 4 (circle one):	
	<input type="checkbox"/> Claim #2/DOK 1, 2, 3, 4 (circle one):	
	<input type="checkbox"/> Claim #3/DOK 1, 2, 3, 4 (circle one):	
	<input type="checkbox"/> Claim #4/DOK 1, 2, 3, 4 (circle one):	
Achievement Level Descriptors	ALD #1: ALD #2: ALD #3: ALD #4: (circle one):	
Materials/Resources	Saxon Math Lessons 51 through 60-2 Math Folders Lesson Worksheets 51 through 60-2 Guided/Written Practice 51 through 60-2 Journal Written Assessment 10 & 11 Fact Assessment 10 & 11 Oral Assessment 6 Recording Form Math Palettes Math Center Activities Extend and Challenge Guide Differentiated Instruction Guide	Dimes, nickels, pennies Poster paint Cups Teacher Fact Cards Student Fact Cards Rulers Color Tiles Geoboards Geobands Chart 60-1 Learning Wrap-Ups

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