

**Understanding by Design: MHSD 193**

**Designer Name(s):** 2<sup>nd</sup> Grade Team

**Date:** 6.4.14

**Subject Area:** Mathematics

**Grade Level(s):** 2

**Unit Title/Focus:** Lessons 81-90

**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 & 8
- 2.NBT.1. three digits of three-digit number represent hundreds, tens, and ones
- 2.NBT.2. Count within 1000; skip-count by 5s, 10s, and 100s.
- 2.NBT.3. Read and write numbers to 1000 base-ten, number names, and expanded form.
- 2.NBT.4. Compare two three-digit numbers on meanings of the hundreds, tens, and ones
- 2.NBT.5. Fluently add and subtract within 100 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.1. Use addition and subtraction within 100 to solve one- and two-step problems
- 2.OA.2. Fluently add and subtract within 20 using mental strategies.
- 2.MD.8. Solve word problems involving dollar bills, quarters, dimes, nickels, and pennies
- 2.MD.10. Draw a picture graph and a bar graph (with single-unit scale)
- 2.G.1. Recognize and draw shapes having specified attributes, angles or equal faces.<sup>1</sup> Identify triangles, quadrilaterals, pentagons, hexagons, and cubes.

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

- Students will understand:
- There are steps to follow when subtracting two digit numbers.
  - The pictures on pictograph tell how many.
  - Each picture on a pictograph can stand for one or for more than one.

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

- What do I do first when subtracting two-digit numbers?
- How do I read a pictograph when each picture stands for 2?
- When a pictograph has a scale of two, how can I show one of something?

**Big Idea(s)**

**Add and subtract within 20.  
Understand place value.  
Use place value understanding and properties of operations to add and subtract.**

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

- Mathematicians use symbols (>, <, =) to compare numbers.
- Pictographs use scales.
- Sets may be composed of fractional parts
- Numbers may be written in expanded form
- Subtracting Facts
- Tangram Pieces may be used to cover designs
- Money amounts may be written with dollar or cent symbols
- Subtracting Two-Digit Numbers may be represented with or without Dimes and Pennies
- Subtracting Facts
- Guessing and Checking may be used to solve a problem
- Designs may be covered in Different Ways Using Tangram Pieces

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

- Use Comparison Symbols (>, <, =)
- Read & Draw a Pictograph With a Scale
- Picture & Write a Fraction to Show a Part of a Set
- Write a Number in Expanded Form
- Mentally compute -5
- Cover Designs With Tangram Pieces
- Write Money Amounts Using Dollar Signs and Cent Symbols
- Subtract Two-Digit Numbers Using Dimes and Pennies
- Subtract Two-Digit Numbers
- Mentally subtract -6
- Solve a Problem by Guessing and Checking when appropriate
- Cover the Same Design in Different Ways Using Tangram Pieces

<p>Vocabulary: <i>cent symbol, comparison symbols, decimal point, dollar sign, equal to, expanded form, greater than, less than</i></p>	
<p><b>Stage 2 - Assessment Evidence (acceptable assessment evidence that students understand)</b></p>	
<p><i>Performance Tasks: (what authentic performance task (s) will students demonstrate understanding; by what criteria will it be judged?)</i>  <i>Worksheet 90B: (utilizing "Act it Out" &amp; "Use Logical Reasoning")</i></p> <ul style="list-style-type: none"> <li>• The chart shows the prices of toys the children can buy at the school fair. Nathan has \$1.00. Show two different things he can buy with his money.</li> </ul>	<p><i>Other Evidence: (quizzes, tasks, academic prompts, homework, observations)</i></p> <p>Fact Assessment 16-1 &amp; 16-2</p> <ul style="list-style-type: none"> <li>• Subtracting 4 &amp; 3</li> <li>• Subtracting 0-4</li> </ul> <p>Written Assessment 16</p> <ul style="list-style-type: none"> <li>• SSM story with regrouping; writes numbers sentence; solves</li> <li>• Shows temperature to 2 degrees</li> <li>• Orders five two or three digit numbers</li> <li>• Writes, shows time to five minutes</li> <li>• Addition/subtraction: +10, -10, -1; adds three one-digit numbers</li> <li>• Adds with regrouping</li> </ul> <p>Fact Assessment 17-1 &amp; 17-2</p> <ul style="list-style-type: none"> <li>• Subtracting 5 &amp; 4</li> <li>• Subtracting 0-5</li> </ul> <p>Written Assessment 17</p> <ul style="list-style-type: none"> <li>• SSM story with three addends; writes number sentences; solves</li> <li>• Read chart; identifies most/fewest; orders four three-digit numbers</li> <li>• Measures line segments using half inches</li> <li>• Identifies time to five minutes; identifies a.m./p.m.</li> <li>• Writes number for picture of base ten blocks</li> <li>• Subtracts 10; adds two and three two-digit numbers</li> </ul> <p>Oral Assessment 9</p> <ul style="list-style-type: none"> <li>• Reading a thermometer to the nearest 2</li> </ul>
<p><b>Stage 3 - Learning Plan (sequence of teaching and learning activities that will produce desired understandings, engagement and development) Use WHERETO elements to help you:</b></p>	
<p><i>Learning Activities:</i></p> <p>Math Meetings 81 through 90-2</p> <ul style="list-style-type: none"> <li>• Calendar</li> <li>• Attendance graph</li> <li>• Temperature</li> <li>• Counting</li> <li>• Problem of the day</li> <li>• Clock</li> <li>• Pattern</li> <li>• Number of the day</li> <li>• Money</li> <li>• Fact family</li> <li>• Secret Number</li> </ul> <p>New Concepts 81 through 90-2</p> <ul style="list-style-type: none"> <li>• State objective</li> <li>• Explicit Instruction</li> <li>• Guided Practice</li> <li>• Written Practice</li> </ul>	

- Recap: "Who would like to share something they learned in math today?"
  - Homework
- Test-Taking Strategies Practice 14 (for use after Lesson 85)
- Reading a Pictograph with a Scale of 2
  - Identifying a Fractional Part of a Set
  - Picturing a Three-Digit Number
- Test-Taking Strategies Practice 15 (for use after Lesson 90)
- Identifying a Number Written in Expanded Form
  - Identifying a Fractional Part of a Set
  - Using Data from a Chart to Solve a Problem
- Journal Writing
- A necklace has 12 beads. They are blue and red and there is a repeating pattern. Explain how to find what fractional part of the beads are blue. (After lesson 83)
  - Explain how to write a 3-digit number in expanded form. (After lesson 84).
  - Explain what a Wrap-Up is and how to use it. (After lesson 85-1)
  - Think of something you would like to buy that costs less than \$20.00. What do you want to buy? What does it cost? Why do you want to buy it? (After lesson 86)
- Literature Connections
- *Alexander, Who Used to Be Rich Last Sunday*, Judith Viorst
  - *Grandfather Tang's Story*, Ann Tompert
- \*Math Center Activities 68-77  
 \*Differentiated Instruction Activities 81 through 90-2
- \*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

<b>Assessment Tasks that Provide Evidence for Claims including DOK</b>	<input type="checkbox"/> <b>Claim #1/DOK 1, 2, 3, 4 (circle one):</b>
	<input type="checkbox"/> <b>Claim #2/DOK 1, 2, 3, 4 (circle one):</b>
	<input type="checkbox"/> <b>Claim #3/DOK 1, 2, 3, 4 (circle one):</b>
	<input type="checkbox"/> <b>Claim #4/DOK 1, 2, 3, 4 (circle one):</b>
<b>Achievement Level Descriptors</b>	<b>ALD #1:    ALD #2:    ALD #3:    ALD #4:    (circle one):</b>
<b>Materials/Resources</b>	

	<p><b>Saxon Math Lessons 81 through 90-2</b> <b>Math Folders</b> <b>Lesson Worksheets 81 through 90-2</b> <b>Guided/Written Practice 81 through 90-2</b> <b>Journal</b> <b>Written Assessment 16 &amp; 17</b> <b>Fact Assessment 16 &amp; 17</b> <b>Oral Assessment 9 Recording Form</b> <b>Math Palettes</b> <b>Math Center Activities</b> <b>Extend and Challenge Guide</b> <b>Differentiated Instruction Guide</b></p>	<p><b>Color Tiles</b> <b>Teacher Fact Cards</b> <b>Student Fact Cards</b> <b>Crayons</b> <b>Number cards</b> <b>Wrap-Ups</b> <b>Pencils</b> <b>Tangrams</b> <b>Newspaper ads</b> <b>Dimes, Pennies</b> <b>Work Mats</b></p>
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