Grade 2 Mathematics	**Unit 9 – Subtracting Two Digit Numbers**
Big Idea/Rationale:	The essential task that children face in multi-digit subtraction is determining whether there are enough ones in the ones place and tens in the tens place to subtract. If not, children must ungroup a hundred into 10 tens and a ten into 10 ones. Children will learn two ungrouping methods, the Expanded Method and the Ungroup First Method, as well as the Adding Up Method for subtraction. They use conceptual tools to understand the concept and develop their own solution methods. • Quarters and Dollars • Multi-Digit Subtraction Strategies • Relating Addition and Subtraction Strategies
Enduring Understandings:	Students will understand that: • Counting money is a form of mental math and is related to children's understanding of place value and their ability to skip count. • The study of money provides many opportunities for creating equivalent expressions. • Subtracting two-digit numbers involves breaking apart the numbers using place value and subtracting digits in the corresponding places. • Addition and subtraction of two-digit numbers are related to one another.
Essential Questions:	• How can you find the value of a group of dollars, quarters, dimes, nickels, pennies? • How do you show $1.00 with different groups of coins? • How do you count combinations of money that include both bills and coins? • How can an organized list show the different ways to make the same amount of money? • When subtracting, how do you know when you need to regroup or trade? • How can you use paper and pencil to subtract a one-digit numbers from a two-digit numbers? • How can you use addition to check subtraction?
Lesson Objectives:	• Combine pennies, nickels and dimes to make 25 cents. • Count by quarters, dimes, nickels, and pennies up to different totals. • State how many pennies, nickels, dimes and quarters equal one dollar. • Combine quarters, dimes,, nickels, and pennies to equal one dollar. • Count one dollar and coins. • Find unknown partners. • Observe similarities between ten partners and hundred partners. • Use different methods to find partners at 100. • Invent different ways to solve 100 – n exercises. • Ungroup a ten into ten ones in order to subtract • Invent ways to solve subtraction story problems. Decide when to

	ungroup and when not to ungroup. • Explain subtraction methods for rewriting a top number to show ungrouping. • Solve 2-digit subtraction problems using the Expanded Method and the Ungroup First Method. • Discuss the advantages and disadvantages of two subtraction methods. Use and explain a preferred method. • Subtract a 2-digit number from any 3-digit number under 200. • Decide when to ungroup and rewrite in subtraction. • Subtract a 2-digit number from numbers with a zero in the tens or ones place (totals to 200) • Make change for a dollar in dimes and pennies. • Use exact change. • Compare addition and subtraction methods. • Identify partners in numbers to 200. • Subtract and count on to find unknown partners • Generate eight equations from a Math Mountain. • Use a preferred method to solve addition and subtraction problems. • Explain a method for solving 2-digit addition and subtraction problems. • Add up to find unknown partners. • Add up to calculate change from two dollars. • Add money amounts and subtract the total from two dollars numerically or by adding up. • Add up to solve unknown partner story problems. • Add up to solve unknown partner story problems.
Common Core State Standards:	**2.OA.A.1:** Use addition and subtraction within 100 to solve one- and- two step word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions e.g., by using drawing and equations with a symbol for the unknown number to represent the problem. **2.0A.A.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. **2.NBT5.** Fluently add and subtract within 100 using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction. **2.NBT7**. Add and subtract within 1000, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction: relate the strategy to a written method. Understand that in adding or subtracting three digit numbers, one adds or subtracts hundreds and hundreds, tens and tens, ones and ones, and sometime it is necessary to compose or decompose tens or hundreds. • 2NBT8. Mentally add 10 or 100 to a given number 100-900, and mentally subtract 10 or 100 from a given number 100-900.

	• 2NBT9. Explain why addition and subtraction strategies work, using place value and the properties of operations. 2.MD Measurement and Data Relate addition and subtraction to length. • 2.MD5. Use addition and subtraction within 100 to solve word problems involving lengths that are given in the same units, e.g., by using drawings (such as drawings of rulers) and equations with a symbol for the unknown number to represent the problem. • 2.MD6. Represent whole numbers as lengths from 0 on a number line diagram with equally spaced points corresponding to the numbers 0, 1, 2 … and represent whole-number sums and differences within 100 on a number line diagram. 2.MD Measurement and Data Work with time and money. • 2.MD8. Solve word problems involving dollar bills, quarters, dimes, nickels, and pennies, using $ and c symbols appropriately. 2.G Geometry Reason with shapes and their attributes. • Partition a rectangle into rows and columns of same-size squares and count to find the total number of them. **Mathematical Practices**
Materials and Resources:	Grade 2 Math Expressions, Math Journals, manipulatives, IXL Mathematics