Understanding and Teaching Number Sense

Outcomes:
Participants will understand the big ideas of the grade level and unwrap the meaning of the ones that will be taught in Quarter 1. They will experience multiple tools and strategies that should be a part of instruction and use these ideas to write upcoming lessons to embed the strategies and tools.

Agenda

Day 1

AM	Number Meaning	
PM	Number Relationships Number Magnitude	

Day 2

AM	Operations of Addition and Subtraction Whole Number/Decimal Multiplication	
PM	Whole Number Division Fluency Instructional Planning	

Standards that Impact Student Achievement

	Counting and Cardinality				Operations and Algebraic Thinking			Numbers and Base Ten
Grade K	K.CC2 Counting forward from any number.	K.CC4: Relationship between number and quantity; connect counting and cardinality	K.CC5: Count to answer "how many?" in various arrangements	K.CC6: Comparing groups of items to identify greater than, less than, or equal to	K.OA2: Solve +/- word problems and add and subtract within 10.	K.OA3: Compose numbers up to 10 into pairs in more than one way.	K.OA5: Fluently +/- within 5	K.NBT.1 Compose and decompose numbers 11 to 19 into tens and some ones.

	Operations and Algebraic Thinking					Numbers and Base Ten	
Grade 1	1.OA.1 Use +/- within 20 to solve problems.	1.OA.3 Properties to add and subtract	1.OA.4 Understand subtraction as a missing addend problem.	1.OA.6 +/- within 20, fluently to 10. Use strategies of counting on, making ten decomposing to a ten, properties, equivalent but easier problem.		1.NBT.2 Understand that a 2-digit numbers represents 10s and 1s.	1.NBT.4 Add within 100, 2 digit and 1-digit, and two-digit and multiple of 10 using models and strategies.

	Operations and Algebraic Thinking		Numbers and Base Ten			Measurement
Grade 2	2.OA.1 Use +/- within 100 to solve problems 1- and 2-step problems	2.OA.2 Fluently +/- within 20	2.NBT.1 Understand that a 3-digit numbers represents 100s, 10s and 1s.	2.NBT.5 Fluently +/- within 100 using strategies	2.NBT.7 +/- within 1000 using concrete models or drawings, properties and relate to written record.	2.MD.5 Use +/- within 100 to solve problems of length

	Operations and Algebraic Thinking		Numbers and Fractions		Measurement	
Grade 3	3.OA.1/3.OA.2 Interpret products and interpret quotients	3.OA.7 Multiply and divide within 100	3.NF.1 Defining a fraction	3.NF.3 Equivalent fractions and comparing fractions	3.MD.2 Solve problems of mass and volume using all operations	3.MD.7 Concepts of area as it relates to multiplication and division.

	Numbers and Base Ten		Numbers and Fractions			
Grade 4	4.NBT.4 Add and subtract to 100,000	4.NBT.5 Multiply 4-digit x 1-digit and 2-digit x 2-digit	4.NBT.6 Division including understanding remainders	4.NF.1 Equivalent fractions	4.NF.3 Addition and subtraction of fractions including word problems.	4.NF.4 Multiplication of fractions

	Numbers and Base Ten		Numbers and Fractions		Measurement
Grade 5	5.NBT.1 Powers of 10 and our place value system	5.NBT.6 Division up to 4-digit by 2-digit (equations, arrays, area model)	5.NF.2 Word problems involving addition and subtraction of fractions.	5.NF.3 Interpret a fraction as a division problem and solve problems leading to a fractional quotient	5.MD.5 Concept of volume