**Blackwater Community School Curriculum Map 2016-2017**

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| **First Grade Quarter 2 (45 Days)** |
| **Introduction to Place Value Through Addition and Subtraction Within 20****Approximately 40 Instructional days October 10th- December 21st**Students understand connections between counting and addition and subtraction (e.g., “making tens) to solve addition and subtraction problems within 20. By comparing a variety of solution strategies children build their understanding of the relationship between addition and subtraction. |
| **Major Clusters:** | **1.OA.A – Represent and solve problems involving addition and subtraction.****1.OA.B – Understand and apply properties of operations and the relationship between addition and subtraction. 1.OA.C – Add and subtract within 20.****1.NBT.B – Understand place value.** |
| Supporting Clusters: |  |
| Vocabulary | A ten, ones, number bonds |
| **Domain** | **Cluster** | **Standard** | **Arizona’s College and Career Ready Standards** | **Explanations & Examples** | **Notes & Resources** |
| **1.OA** | **A** | **1** | Use addition and subtraction within 20 to solve word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem.*1.MP.1.* Make sense of problems and persevere in solving them.*1.MP.2.* Reason abstractly and quantitatively. | Contextual problems that are closely connected to students’ lives should be used to develop fluency with addition and subtraction. Table 1 describes the four different addition and subtraction situations and their relationship to the position of the unknown. 1st grade students should have experiences with **all** problem situations in Table 1. Students use objects, drawings, or numbers to represent the different situations.* Take From example: Abel has 9 apples. He gave 3 to Susan. How many apples does Abel have now?
* Compare example: Abel has 9 apples. Susan has 3 apples. How many more apples does Abel have than Susan? A student will use 9 objects to represent Abel’s 9 apples and 3 objects to represent Susan’s 3 apples. Then they will compare the 2 sets of objects.
 | **Engage NY**M2 Lessons 1-29Appears again in Modules 3, 4, and 6.**enVision**Topic 1,2,4,5<http://www.bwcs.k12.az.us/> |  |

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|  |  |  | *1.MP.3.* Construct viable arguments and critique the reasoning of others.*1.MP.4.* Model with mathematics. *1.MP.5.* Use appropriate tools strategically.*1.MP.8.* Look for and express regularity in repeated reasoning. | Note that even though the modeling of the two problems above is different, the equation, 9 - 3 = ?, can represent both situations yet the compare example can also be represented by 3 + ? = 9 (How many moredo I need to make 9?).It is important to attend to the difficulty level of the problem situations in relation to the position of the unknown.* Result Unknown, Total Unknown, and Both Addends Unknown problems are the least complex for students.
* The next level of difficulty includes Change Unknown, Addend Unknown, and Difference Unknown.
* The most difficult are Start Unknown and versions of Bigger and Smaller Unknown (compare problems).

Students may use document cameras to display their combining or separating strategies. This gives them the opportunity to communicate and justify their thinking. |  |

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| **Domain** | **Cluster** | **Standard** | **Arizona’s College and Career Ready Standards** | **Explanations & Examples** | **Notes & Resources** |
| **1.OA** | **A** | **2** | Solve word problems that call for addition of three whole numbers whose sum is less than or equal to 20, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem.*1.MP.1.* Make sense of problems and persevere in solving them.*1.MP.2.* Reason abstractly and quantitatively.*1.MP.3.* Construct viable arguments and critique the reasoning of others.*1.MP.4.* Model with mathematics. *1.MP.5.* Use appropriate tools strategically.*1.MP.8.* Look for and express regularity in repeated reasoning. | Students solve word problems using properties of operations and counting strategies to find the sum of three whole numbers such as: Anna went to the store and bought 7 apples, 6 bananas, and 4 peaches. How many pieces of fruit did Anna buy? Making tens (e.g., 7 + 6 + 4 = 4 + 6 + 7 = 10 + 7 = 17)* Using doubles and near doubles (doubles plus 1, minus 1)

e.g., 7 + 6 + 4; student thinks 7 + 6 = 6 + 6 + 1 = 12 + 1 =13; 13 +4 = 17* Decomposing numbers between 10 and 20 into tens and ones helps reinforce place value understanding

1* Counting on and counting on again (e.g., to add 3 + 2 + 4 a student writes 3 + 2 + 4 = ? and thinks, “3, 4, 5, that’s 2 more, 6, 7, 8, 9 that’s 4 more so 3 + 2 + 4 = 9.”)

Using “plus 10, minus 1” to add 9 (e.g., 3 + 9 + 6 A student thinks, “9 is close to 10 so I am going to add 10 plus 3 plus 6 which gives me 19. Since I added 1 too many, I need to take 1 away so the answer is 18.)Students may use document cameras to display their combining strategies. This gives them the opportunity to communicate and justify their thinking.  | **Engage NY**M2 Lessons 1-11**enVision**Topic 5<http://www.bwcs.k12.az.us/> |

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| **Domain** | **Cluster** | **Standard** | **Arizona’s College and Career Ready Standards** | **Explanations & Examples** | **Notes & Resources** |
| **1.OA** | **B** | **3** | Apply properties of operations as strategies to add and subtract. *Examples: If 8 + 3 = 11 is known, then 3 + 8 = 11 is also known. (Commutative property of addition.) To add 2 + 6 + 4, the second two numbers can be added to make a ten, so 2**+ 6 + 4 = 2 + 10 = 12. (Associative property of addition.) (*Students need not use formal terms for these properties.)*1.MP.2.* Reason abstractly and quantitatively.*1.MP.7.* Look for and make use of structure.*1.MP.8.* Look for and express regularity in repeated reasoning. | Students should understand the important ideas of the following properties:* Identity property of addition (e.g., 6 = 6 + 0)
* Identity property of subtraction (e.g., 9 – 0 = 9)
* Commutative property of addition (e.g., 4 + 5 = 5 + 4)
* Associative property of addition (e.g., 3 + 9 + 1 = 3 + 10)

Students need several experiences investigating whether the commutative property works with subtraction. The intent is not for students to experiment with negative numbers but only to recognize that taking 5 from 8 is not the same as taking 8 from 5. Students should recognize that they will be working with numbers later on that will allow them to subtract larger numbers from smaller numbers. However, in first grade we do not work with negative numbers. | **Engage NY**M2 Lessons 1-25**enVision**Topic 1, 4,5<http://www.bwcs.k12.az.us/> |
| **1.OA** | **B** | **4** | Understand subtraction as an unknown- addend problem. *For example, subtract 10**– 8 by finding the number that makes 10 when added to 8.**1.MP.2.* Reason abstractly and quantitatively.*1.MP.7.* Look for and make use of structure.*1.MP.8.* Look for and express regularity in repeated reasoning. | When determining the answer to a subtraction problem, 12 - 5, students think, “If I have 5, how many more do I need to make 12?” Encouraging students to record this symbolically, 5 + ? = 12, will develop their understanding of the relationship between addition and subtraction.Some strategies they may use are counting objects, creating drawings, counting up, using number lines or 10 frames to determine an answer. | **Engage NY**M2 Lessons 12-25**enVision**Topic 2,3,4,5<http://www.bwcs.k12.az.us/> |
| **1.OA** | **C** | **6** | Add and subtract within 20, demonstrating fluency for addition and subtraction within 10. Use strategies such as counting on; making ten (e.g., 8 + 6 = 8+ 2 + 4 = 10 + 4 = 14); decomposing a number leading to a ten (e.g., 13 – 4 = 13 – 3 – 1 = 10 – 1 = 9); using the relationship between addition and subtraction (e.g., knowing that 8 + 4 = 12, one knows 12 – 8= 4); and creating equivalent but easier or known sums (e.g., adding 6 + 7 by creating the known equivalent 6 + 6 + 1 = 12 + 1 =13).*1.MP.2.* Reason abstractly and quantitatively.*1.MP.7.* Look for and make use of structure.*1.MP.8*. Look for and express regularity in repeated reasoning. | This standard is strongly connected to all the standards in this domain. It focuses on students being able to fluently add and subtract numbers to 10 and having experiences adding and subtracting within 20 using mental strategies. By studying patterns and relationships in addition facts and relating addition and subtraction, students build a foundation for fluency with addition and subtraction facts. Adding and subtracting fluently refers to knowledge of procedures, knowledge of when and how to use them appropriately, and skill in performing them flexibly, accurately, and efficiently. The use of objects, diagrams, or interactive whiteboards and various strategies will help students develop fluency. | **Engage NY**M2 Lessons 1-25**enVision**Topic 2,3,4,5<http://www.bwcs.k12.az.us/> |
| **1.NBT** | **B** | **2** | Understand that the two digits of a two- digit number represent amounts of tens and ones. Understand the following as special cases:1. 10 can be thought of as a bundle of ten ones — called a “ten.”
2. The numbers from 11 to 19 are composed of a ten and one, two,

three, four, five, six, seven, eight, or nine ones.c. The numbers 10, 20, 30, 40, 50, 60, 70, 80, 90 refer to one, two, three, four, five, six, seven, eight, or nine tens (and 0 ones).*1.MP.2*. Reason abstractly and quantitatively.*1.MP.7.* Look for and make use of structure.1. *1.MP.8*. Look for and express regularity in repeated reasoning.
 | Understanding the concept of 10 is fundamental to children’s mathematical development. Students need multiple opportunities counting 10 objects and “bundling” them into one group of ten. They count between 10 and 20 objects and make a bundle of 10 with or without some left over (this will help students who find it difficult to write teen numbers).Students may use the document camera or interactive whiteboard todemonstrate their “bundling” of objects. This gives them the opportunity to communicate their thinking. | **Engage NY**M2 Lessons 26-29 Appears again in Modules 4 and 6.**The numbers in this unit are limited to 20 – “Ten and some more.”****enVision**Topic 8<http://www.bwcs.k12.az.us/> |