# NJDOE MODEL CURRICULUM PROJECT

| CONTENT AREA: Mathematics | GRADE: 1 | UNIT: # 1 | UNIT NAME: Add and Subtract within 20 |
|---|---|---|---|

| | STUDENT LEARNING OBJECTIVES | | CORRESPONDING CCSS |
|---|---|---|---|
| **1** | Count utilizing written or verbal numerals starting at any number less than 100. | **1.NBT.1** | **Count to 120, starting at any number less than 120. In this range, read and write numerals and represent a number of objects with a written numeral.** |
| **2** | Count forward or backwards from any number within 20 to solve addition & subtraction problems. | 1.OA.5 | Relate counting to addition and subtraction (e.g., by counting on 2 to add 2). |
| **3** | Compose and decompose numbers to 20 to identify the value of the number in the tens & ones place. | 1.NBT.2 | Understand that the two digits of a two-digit number represent amounts of tens and ones. Understand the following as special cases:<br>a. 10 can be thought of as a bundle of ten ones - called a "ten."<br>b. The numbers from 11 to 19 are composed of a ten and one, two, three, four, five, six, seven, eight, or nine ones.<br>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). |
| **4** | Add or subtract whole numbers within 20 using strategies including making a 10 or decomposing a number leading to a 20. | **1.OA.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). |
| **5** | Apply properties of operations to add or subtract whole numbers within 20 (Commutative & Associative properties of addition). | 1.OA.3 | Apply properties of operations as strategies to add and subtract.3 *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.)* |
| **6** | Solve subtraction problems using unknown addends (within 20). | 1.OA.4 | Understand subtraction as an unknown-addend problem. *For example, subtract 10 – 8 by finding the number that makes 10 when added to 8.* |

***Bold type indicates grade level fluency requirements.*** (Identified by PARCC Model Content Frameworks).

## Selected Opportunities for Connection to Mathematical Practices

1. **Make sense of problems and persevere in solving them.**
   SLO #3 Explain what it means to decompose a number into two separate quantities (less than or equal to 20).
   SLO #4 Understand that the decomposition of numbers is a starting point to solving addition or subtraction of whole numbers within 20.
   SLO #6 Know the process and necessary information needed to solve subtraction problems with unknown addends (within 20).
2. **Reason abstractly and quantitatively.**
   SLO #3 Reason about the quantities and relationship among the decomposed parts of numbers and the composed number (up to 20).
   SLO #4 Understand what each decomposed number represents in relation to an addition or subtraction problem within 20.
   SLO #5 Know how to correctly and appropriately apply the property of operations to either addition or subtraction problems (e.g. commutative and associative properties can be applied to addition but not subtraction problems).
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. **Look for and make use of structure.**
   SLO #3 Understand the structure of decomposed numbers (the two addends are equivalent to the number being decomposed).
   SLO #4 Look for a pattern or structure in the steps to solving addition or subtraction problems (within 20).
8. **Look for and express regularity in repeated reasoning.**

***Bold type identifies possible starting points for connections to the SLOs in this unit.***

# Greater Brunswick Charter School Curriculum

**Grade level: 1** **Subject: Math** **Unit #: 1**

| Day | Topic | SLO CCSS | Learning Objectives | Essential Questions | Suggested Student Activities | | Possible Resources |
|---|---|---|---|---|---|---|---|
| | | | | | Whole Group | Small Group / Stations | |
| 1 | Adding in any order | 5 | Add two numbers in any order | *How does changing the order of the addends change the sum?* | | • Lesson<br>• SeeShow, OnMyOwn<br>• Ind. Practice<br>• i-Ready | MyMath p.17-22<br>Extend the lesson to illustrate 2 + 1 = 1 + 2 = 3 |
| 2 | Counting to solve problems | 2 | Model numbers up to 10 with objects | *What are some ways to represent numbers? How can I show a number without writing it?* | | • Lesson<br>• SeeShow, OnMyOwn<br>• Ind. Practice<br>• i-Ready | MyMath p.11-16 |
| 3 | Counting to solve problems | | | | | • Lesson<br>• SeeShow, OnMyOwn<br>• Ind. Practice<br>• i-Ready | MyMath p.23-36 |
| 4 | Adding | 5 | Adding numbers in vertical and horizontal formats | *Does it matter how the numbers are written to let me add them?* | | • Lesson<br>• SeeShow, OnMyOwn<br>• Ind. Practice<br>• i-Ready | MyMath p.37-42 |
| 5 | Decomposing numbers | 3 | Show 5 (and other numbers) as two parts | *How is every number made up of two parts?* | | • Lesson<br>• SeeShow, OnMyOwn<br>• Ind. Practice<br>• i-Ready | MyMath p.49-74 |
| 6 | | | | | | • Review<br>• SeeShow, OnMyOwn<br>• Ind. Practice<br>• i-Ready | |
| 7 | Composing and Decomposing 10 | 3 | Show 10 as two parts made by many numbers | *How fast can I make a 10 in my mind?* | *Making 10s is one of the most important elements of mental math and is an investment in the future math skills of each child* | • Review<br>• SeeShow, OnMyOwn<br>• Ind. Practice<br>• i-Ready | • MyMath p.75-78<br>• Number Bonds<br>• Pinterest:Making 10 Activities |

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| | | | | | **Whole Group** | **Small Group / Stations** | |
| 8 | Composing and Decomposing 10 | 3 | Show 10 as two parts made by many numbers | *How fast can I make a 10 in my mind?* | | • Review<br>• SeeShow, OnMyOwn<br>• Ind. Practice<br>• i-Ready | MyMath p.79-80<br>Printables: Making 10s<br>YouTube:Making 10s<br>BrainPop:Making 10s |
| 9 | Composing and Decomposing 10 | 3, 4, 6 | Find the missing part of 10 | *How fast can I make a 10 in my mind?* | | • Lesson<br>• SeeShow, OnMyOwn<br>• Ind. Practice<br>• i-Ready | MyMath p.81-84<br>YouTube:Friends of 10<br>NCTM:Missing 10 |
| 10 | | | | | | • Lesson<br>• SeeShow, OnMyOwn<br>• Ind. Practice<br>• i-Ready | MyMath p.85-86<br>Helping with Math: Making 10 – a little advanced |
| 11 | Composing and decomposing numbers | 4 | Determine a math statement as true of false | | | • Lesson<br>• SeeShow, OnMyOwn<br>• Ind. Practice<br>• i-Ready | MyMath p. 87-92 |
| 12 | Adding and decomposing numbers | 4, 5 | Review learned skills | | | • Review<br>• Fluency Practice<br>• My Review<br>• Reflect | MyMath p.93-98 |
| 13 | Assessment Modeling Subtraction | 5, 6 | Subtract in one digit problems | *How can I tell how many are left after some go away?* | • Assessment<br>• Lesson | • | MyMath p. 109-114 |
| 14 | Subtraction | 5, 6 | Subtract with one digit numbers | *How can two parts make a whole?* | Transfer experiences from decomposing numbers to show that was really subtraction | • Lesson<br>• SeeShow, OnMyOwn<br>• Ind. Practice<br>• i-Ready | MyMath p. 115-120 |
| 15 | Subtraction sentences | 5, 6 | Write subtraction sentences from a problem | *How can I write a number sentence to show what is happening?* | | • Lesson<br>• SeeShow, OnMyOwn<br>• Ind. Practice<br>• i-Ready | MyMath p. 121-126 |

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| | | | | | **Whole Group** | **Small Group / Stations** | |
| 16 | Subtracting with 0<br><br>Subtracting in a vertical format | 5, 6 | Subtract with numbers under each other. | *If everything is taken away, does that leave nothing? How much is left is nothing is taken away?* | Mini-lesson on 0 | • Lesson<br>• SeeShow, OnMyOwn<br>• Ind. Practice<br>• i-Ready | MyMath p. 127-138 |
| 17 | Solving subtraction problems | 5, 6 | Solve problems using subtraction | *How does making a movie in my mind and a diagram help me understand what is happening?* | | • Lesson<br>• SeeShow, OnMyOwn<br>• Ind. Practice<br>• i-Ready | MyMath p. 141-146 |
| 18 | Decomposing numbers | 3, 6 | Determine the difference between two numbers | *How does knowing what two numbers add to help me subtract with them?* | Mini-lesson: Transfer decomposing to subtraction. | • Lesson<br>• SeeShow, OnMyOwn<br>• Ind. Practice<br>• i-Ready | MyMath p. 147-152 |
| 19 | | | Subtract from 4 and 5 | | | • Lesson<br>• SeeShow, OnMyOwn<br>• Ind. Practice<br>• i-Ready | MyMath p. 153-158 |
| 19 | | | Subtract from 6, 7 | | *Taking more time through these because subtraction is a more difficult concept for students.* | • Lesson<br>• SeeShow, OnMyOwn<br>• Ind. Practice<br>• i-Ready | MyMath p.159-164 |
| 20 | | | Subtract from 8 | | | • Lesson<br>• SeeShow, OnMyOwn<br>• Ind. Practice<br>• i-Ready | MyMath p. 167-172 |
| 21 | | | Subtract from 9 | | | • Lesson<br>• SeeShow, OnMyOwn<br>• Ind. Practice<br>• i-Ready | MyMath p. 173-178 |
| 22 | Subtracting from 10 | 3, 6 | Subtract from 10 Using 10 frames | *How can making 10s make it easier to subtract?* | Mini lesson: Ten frames and making 10s. | • Lesson<br>• SeeShow, OnMyOwn<br>• Ind. Practice<br>• i-Ready | MyMath p179-183 |

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| | | | | | **Whole Group** | **Small Group / Stations** | |
| 23 | Subtracting from 10 | 3, 6 | Subtract from 10 Using 10 frames | *How can making 10s make it easier to subtract?* | Mini lesson: Ten frames and making 10s. | • Review Lesson<br>• Ten frames practice<br>• Ind. Practice<br>• i-Ready | Number Bonds<br>Pinterest:Making 10 Activities<br>Printables: Making 10s<br>YouTube:Making 10s<br>BrainPop:Making 10s<br>NCTM:Missing 10 |
| 24 | Subtraction | 3, 5, 6 | Assessment | | | • Review<br>• Assessment | |
| 25 | Related math facts using subtraction | 6 | Use the relationship between numbers in subtraction problems to find other subtraction and addition problems. | *How does seeing one true number sentence help me make others? How are they related?* | | • Lesson<br>• SeeShow, OnMyOwn<br>• Ind. Practice<br>• i-Ready | MyMath p.185-190 |
| 26 | Math statements | 3, 4, 5, 6 | Determine truth of math statements | *How can knowing how to add and subtract help me figure out if things are correct?* | | • Lesson<br>• SeeShow, OnMyOwn<br>• Ind. Practice<br>• i-Ready | MyMath p.191-196 |
| 27 | Composing numbers | 3, 5 | Review making 4s, 5s, 6s, 7s, 8s, 9s, and 10s | | *Use the pages you believe are needed at this point in the unit for each child.* | • Lesson<br>• SeeShow, OnMyOwn<br>• Ind. Practice<br>• i-Ready | MyMath p. 49-74 |
| 28 | Composing and decomposing 10s<br><br>Using 10 frames | 3, 4, 5, 6 | Create fluency in making 10s | | *Use any of the making 10s websites to provide more practice for all and additional mini lessons for those in need* | • Lesson<br>• SeeShow, OnMyOwn<br>• Ind. Practice<br>• i-Ready | |

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| | | | | | Whole Group | Small Group / Stations | |
| 29 | Mental arithmetic | 5 | Compute mentally | *How can picturing the numbers on a page in my head make me better at mental math?* | | • Lesson on practice with mental math<br>• Fluency Practice<br>• My Review<br>• i-Ready | MyMath p. 197-202 |
| 30 | | | | *How can picturing a number line in my head help me add and subtract?* | | • Lesson for those in need<br>• SeeShow, OnMyOwn<br>• Ind. Practice<br>• i-Ready | MyMath blackline resources |
| 31 | Assessment | 1, 2, 3, 4, 5, 6 | | | | • Review<br>• Assessment | MyMath assessments |

Word Wall Candidates

| | | | | |
|---|---|---|---|---|
| Add | Addend | Plus | Number sentence | Equals = |
| False | True | Part | Whole | Plus |
| Sum | Zero | Same | In all | Subtract |
| Difference | Minus. | Compare | Related Facts | |

Authentic Application

Your Goal: To make number and picture sentences about animals you know.

Your Role: You are a zookeeper picking animals for your special zoo.

Your Audience: Everyone who comes to your zoo to see the animals you have chosen.

The Situation: You need to select four different animals and draw a picture of them sitting in your zoo. But, not all of the animals can arrive at the zoo at the same time. Some of them arrive in the first week. Then, some more arrive the second week. In the third week, some of them leave to go back to their natural homes.

The Product: You will draw a zoo that shows the animals that arrived the first week. Then, you will draw in the animals that arrived the second week. Then, you will color over the animals who left in the third week.
You will make four number sentences using + and – to show the animals that arrived each week.

Success criteria: Your zoo needs to be attractive and your animals need to be in sections of the zoo with good plants around them that will help them live.
You need to make the four number sentences that show how many animals arrived or left each of the weeks and how many animals are there at the end of the three weeks.