**Gina L. Gullo**

**Lesson Plan**

**1.** **Lesson** Addition S**ubject** Math **Date** February 6, 2014

**2. Target Grade/Age Level:**   
Students Navy (Grade 1) and Black (Kindergarten), Autistic Support

**3. PDE Standards:**

Numbers, Number Systems and Number Relationships 2.1.K-1.A  
K: Demonstrate the relationship between numbers and quantities, including rote counting, one-to-one correspondence, and counting by tens, and comparing values of whole numbers up to 20.  
1: Demonstrate the relationship between numbers and quantities, including place value, one-to-one correspondence, rote counting, counting by twos to 20, counting by tens and fives, and comparing values of whole numbers up to 100.

Computation and Estimation 2.2.1.A.  
2.2.1.A. Apply concepts of addition and subtraction to solve problems up to ten.

**PA Common Core Standards:**

CC.2.2.K.A.1 (Kindergarten)  
Extend the concepts of putting together and taking apart to add and subtract within 10.

CC.2.2.1.A.1 (Grade 1)  
Represent and solve problems involving addition and subtraction within 20.

CC.2.1.K.A.2 (Kindergarten)  
Apply one‐to‐one correspondence to count the number of objects.

**4. Learning Objectives and Aligned Summative Assessments:**

| **Learning Objectives** | **Aligned Summative Assessments** |
| --- | --- |
| Given materials/manipulatives (counters, number line, etc.) and addition problems consisting of single-digit numbers, Student Black will correctly solve 90% of all addition problems presented, over 3 consecutive weekly probes  Given instruction using a variety of materials (manipulatives, flashcards, marker board, worksheets, etc.) and the verbal direction to “add,” Student Navy will demonstrate the ability to add 2 numbers with sums of no more than 10, by providing verbal or written answers to problems with at least 90% accuracy of problems attempted, over 3 consecutive weekly probes. | Students will be given probes of single plus single digit addition problems as appropriate for their individual objectives written on a dry erase board and be asked to add them and vocalize the answer. |

**5. Materials Needed:**

* Dry erase board and marker for each teacher, one dry eraser, counter manipulatives (unifix cubes, pennies, tokens, or similar items may be used), bingo game with numbers 1-10 on cards (attached) and chips, addition problem flash cards (sums up to 10; attached), answer cards (attached)

**6. Expectations for Behavior and Class Activities:**

* The child will follow teacher directions.
* The child will actively engage in all activities to her best ability.
* The child will use kind words.
* The child will worry about him or herself and ignore the behaviors of others.
* The child will keep hands and feet to himself.
* The child will remain quiet and seated during the lesson.

**7. General or Specific Accommodations for Special Needs Learners:**

* + This is a classroom for students with autism, so many accommodations are already in place. Specific accommodations are in each child’s IEP; general accommodations include:
    - Frequent reinforcement using verbal praise or edible rewards.
    - Very low student-teacher ratio, with 2 students to one teacher maximum during focused center activities.
    - Center pairing of students that considers how well those students interact.
    - Seating that allows all students in close proximity of the instructing teacher.
    - Differentiated objectives to allow for individualized goal acquisition.

**8. Description of Learning Activities**

|  |
| --- |
| **Lesson Implementation** |
| Introductory Activity:  The teacher begins by reviewing what an addition sign means with students by drawing a division, multiplication, subtraction, and addition sign on a dry erase board and asking the students to show her which sign means putting things together to see how many you have IN ALL. The students should be praised or shaped toward correct responses as necessary and then the teacher will tell the students that they will work on addition skills today using different ways of putting things together.  Modeling/Demonstration 1:  The teacher tells a story about how she has three cookies for lunch and how a friend has two cookies for lunch. Next, she should tell the students that to find out how many cookies they have together she can count all the cookies or just add the numbers two and three to get five. The teacher should model writing the problem on a dry erase board in horizontal format and then using counters to make three items next to the number three and then two items next to the number two. Finally, she should show the student how she counts all the counters to see that there are five in all. She can repeat this using a second manipulative (bears) to give an example of another manipulative to use.  Guided Practice and Feedback 1:  Now, the teacher should give both students a set of manipulatives of their choosing. The teacher tells a new story about how Student Navy has six markers and Student Black has two markers. She can ask the students how they can find out how many there are all together using a math problem. Then she can put out an array of three possible math sentences (see attached) such as 6 + 2 =, 6 + 6 =, and 2 + 2 =. The students should be assisted as needed to choose the appropriate problem and solve the problem using manipulatives of their choice (counters, bears, etc.). Students should be praised for specific behaviors throughout this activity.  Independent Practice/Exploring & Formative Assessment 1:  Now, the teacher should have the students try a problem on their own. The teacher may tell the students that she has two televisions at home and that another teacher also has two televisions at home. Then, the teacher should ask the students how many televisions they would have if they counted all of their televisions (or all together). The teacher should place an array of three math sentences in front of each student to choose from. If needed a divider can be placed between the students at this time to avoid peer assistance. The teacher should watch the students select the math sentence and complete the problem, and note any areas where improvements are needed for any necessary reteaching.  Modeling/Demonstration 2:  The teacher should make sure that the students now understand why they need to be able to add numbers. She should ask the students to share one time they may have wanted to know how many items they had all together. If the students cannot think of anything quickly, a teacher story may be shared. The teacher should describe to the students that they need to practice addition problems so they can add quickly. Next, she shows the students a horizontal addition problem on a dry erase board and models solving it using manipulatives. Then, she may explain that she practices addition problems, so that one day she will be very quick at solving them correctly.  Guided Practice and Feedback 2:  Now, the teacher shows 2-4 more problems on her dry erase card to the students to complete individually as necessary (if they get the first 2 correct, only 2 are needed). She should have the students solve each item using manipulatives. Students should be told to hide their answers or be provided with a divider so that it feels like a game for them (and so there is no opportunity for cheating). Teachers may use a game show host voice, but be assertive enough to make sure that students are focused on learning while having fun. The teacher may provide feedback and/or guidance as needed, but there should be more praise than corrective feedback as much as possible.  Independent Practice/Exploring:  First, the teacher gives the students a bingo board with numbers 1-10 (four different numbers per card) and chips. She should explain to the students that they will play math bingo, but they need to add the numbers on the board together to get the bingo number. A divider should be put up between the students so that if one student gets the answer first it doesn’t help or hurt the other student. The teacher should select addition flash cards and write them on her dry erase board to present to the children one at a time to so that both students have equal time to calculate an answer. Students should not be corrected for wrong answers until after the game. The class should continue to play this game until the end of the center. After each game, the teacher should review the problems that were given and the answers of each—particularly on the winning board. Winning students should get high fives, but not be called a winner. The teacher should praise both students for playing the game and trying hard. At the end of each game a tangible reward should be given to each student (candy or sticker).    Formative Assessment:  The teacher should constantly watch the students’ approach to each addition problem. During guided instruction and feedback, students should be given extra instruction whenever needed. The teacher should also note any errors and/or error patterns made when during the bingo activity to determine if and what may need to be retaught during a subsequent lesson.  Accommodations:  Students will have a variety of manipulatives available so that they can use the one that works best for their needs. Use of choice for manipulative selection will give the students a sense that they have more control over their math practices, but at least 2 manipulatives should be demonstrated using modeling to help facilitate students to learn which method is their best fit.  Review and Preview:  After the lesson, the teacher should review that they practiced adding different single digit numbers and that they worked with stories and just numbers. Tell students that in the next lesson they will practice more number-problems (or if not needed work on using math problems to solve stories like the cookie question). |

**9. Potential Areas of Difficulty with the Content and Correction Procedures:**

Students might have trouble choosing between different manipulatives. If this occurs, give the student unifix cubes and change the manipulative if that is not working for the student.

Students may have issues with selecting a number problem based on the story. As this is mostly a pre-assessment of this skill, the teacher may do this for the students as needed. This should occur only if the student(s) demonstrates that he or she cannot do this step independently after at least two attempts. Currently, this is not part of the students’ objectives in their IEPs, but it is an important conceptual skill for math comprehension

Students are currently learning both addition and subtraction skills, so they may mistakenly subtract rather than add. If this is done use zero-time delay repetitions to help the student develop a clear understand that the “+” means add. Student Navy may have the prompt, “add” used as it is part of his objective per his IEP.

**10. Summative Assessments:**

The student will be shown given 10 single plus single digit addition problems present one at a time on a dry erase board. Student Black will be given problems with addends lower than 10, and Student Navy will be given problem problems with sums up to 10. Some samples problems for Student Black are: 9+3=, 8+4=, 7+1=, 2+2=, and 3+5. Sample items for Student Navy are: 2+5=, 7+1=, 9+1=, 2+3=, and 3+4=. Items should be presented with only 2-3 problems as probes per day over the course of a week. Data should be compiled weekly to check for mastery (90% accuracy of 3 weeks).

**11. Reflections**: This lesson went quite well other than some reteaching that was needed due to many days out of school recently due to snow. I needed to be more direct with my modeling, but when I back-stepped to reteach, I had success with my students. Also, I should have had a number in common on the bingo boards to help teach the concept of using the boards. I did not have a good closure activity planned for this lesson, but my advisor helped me to have a session where the students gave me math questions on which to work. That helped, but perhaps a review of everything would have been even better when combined with the teaching by students portion.

**12. Sources:**

Sugai, G. (2007). Promoting behavioral competence in schools: A commentary on exemplary practices. *Psychology in the Schools, 44*(1), 113-118.

**MATH SENTENCE ARRAY 1**

|  |
| --- |
| 2 + 6 = |
| 2 + 2 = |
| 6 + 6 = |

**MATH SENTENCE ARRAY 2**

|  |
| --- |
| 2 + 1 = |
| 2 + 2 = |
| 1 + 1 = |

Print 2 sets

BINGO FLASH CARDS – PAGE 1

|  |  |
| --- | --- |
| **1 + 1 =** | **1 + 2 =** |
| **1 + 3 =** | **1 + 4 =** |
| **1 + 5 =** | **1 + 6 =** |
| **1 + 7 =** | **1 + 8 =** |
| **1 + 9 =** | **1 + 0 =** |
| **2 + 1 =** | **2 + 2 =** |

BINGO FLASH CARDS – PAGE 2

|  |  |
| --- | --- |
| **2 + 3 =** | **2 + 4 =** |
| **2 + 5 =** | **2 + 6 =** |
| **2 + 7 =** | **2 + 8 =** |
| **2 + 0 =** | **3 + 1 =** |
| **3 + 2 =** | **3 + 3 =** |
| **3 + 4 =** | **3 + 5 =** |

BINGO FLASH CARDS – PAGE 3

|  |  |
| --- | --- |
| **3 + 6 =** | **3 + 7 =** |
| **3 + 0 =** | **4 + 1 =** |
| **4 + 2 =** | **4 + 3 =** |
| **4 + 4 =** | **4 + 5 =** |
| **4 + 6 =** | **4 + 0 =** |
| **5 + 1 =** | **5 + 2 =** |

BINGO FLASH CARDS – PAGE 4

|  |  |
| --- | --- |
| **5 + 3 =** | **5 + 4 =** |
| **5 + 5 =** | **5 + 0 =** |
| **6 + 1 =** | **6 + 2 =** |
| **6 + 3 =** | **6 + 4 =** |
| **6 + 0 =** | **7 + 1 =** |
| **7 + 2 =** | **7 + 3 =** |

BINGO FLASH CARDS – PAGE 5

|  |  |
| --- | --- |
| **7 + 0 =** | **8 + 1 =** |
| **8 + 2 =** | **8 + 0 =** |
| **9 + 1 =** | **9 + 0 =** |

|  |  |
| --- | --- |
| **MATH BINGO** | |
| 5 | 3 |
| 8 | 2 |

|  |  |
| --- | --- |
| **MATH BINGO** | |
| 9 | 4 |
| 7 | 6 |

Fill in your own boards if you like:

|  |  |
| --- | --- |
| **MATH BINGO** | |
|  |  |
|  |  |

|  |  |
| --- | --- |
| **MATH BINGO** | |
|  |  |
|  |  |