**12 Ways to Get to 11**

|  |
| --- |
| In this lesson, students will be figuring out the addends that add up to the correct sums. They will also be creating and solving equations with more than two addends. |

**NC Mathematics Standard(s):**

**Operations and Algebraic Thinking**

**NC.2.OA.1 Represent and solve addition and subtraction word problems, within 100, with unknowns in all positions, by using representations and equations with a symbol for the unknown number to represent the problem, when solving:**

* **One-Step problems:**
* **Add to/Take from Start Unknown**
* **Compare-Bigger Unknown**
* **Compare-Smaller Unknown**
* **Two-Step problems involving single digits:**
* **Add to/Take from- Change Unknown**
* **Add to/Take from- Result Unknown**

 **NC.2.OA.2 Demonstrate fluency with addition and subtraction, within 20, using mental strategies.**

**Additional/Supporting Standards:**

**NC.2.NBT.5 Demonstrate fluency with addition and subtraction, within 100, by:**

* **Flexible using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction.**
* **Comparing addition and subtraction strategies, and explaining why they work.**
* **Selecting an appropriate strategy in order to efficiently compute sums and differences.**

**Standards for Mathematical Practice:**

1. Make sense of problems and persevere in solving them.

4. Model with mathematics.

6. Attend to precision.

7. Look for and make use of structure.

**Student Outcomes:**

* I can use strategies to solve addition word problems.
* I can write and solve an equation with more than two addends.

**Math Language:**

**What words or phrases do I expect students to talk about during this lesson?** Students will be using vocabulary from both first and second grade such as: add, equal, addend, sum, and putting together.

**Materials:**

* *12 Ways to Get 11* by Eve Merriam
* Chart paper or board
* 12 x18 white construction paper (one piece for each partner group)
* Crayons or Markers for partner groups
* Baggies with 20 Unifix or Snap cubes for each partner group

**Advance Preparation**:

* Gather enough 12 x 18 construction paper for your class booklet
* Make baskets of crayons or markers for partners
* Make baggies with 20 Unifix or Snap cubes

**Launch:**

1. (20 minutes) Have students gather on the carpet to listen to a story. Tell students that you will be reading a story about addition. Ask students, “What is addition?” Listen to possible answers. Then begin to read aloud the story *12 Ways to Get 11.* Each page has a different equation to get to 11. Have students tell you the equation after reading each page and record their answers on the chart paper. During the book, stress how many different ways that the characters get the “sum” of 11.

**Explore:**

1. (45 minutes) Ask students to return to their seats. Tell students, “Today we are going to explore how

 many ways we can come up with the sum of 20, using more than 2 addends. Select partner groupings.

 Hand out the baggies of cubes, one for each group. Have students use their cubes to come up with

 different ways to get to 20 using more than 2 addends. (ex. 5+3+4+8=20) After partners have a

 chance to explore different ways to make 20, choose 10 different equations to write on the board. Pass

 out one sheet of 12x18 construction paper to each group. The groups may then choose one equation to

 illustrate for the class book *10 Ways to Get 20.* Have each group write the equation at the top of the

 page. Then write a story problem to match the equation. They can also illustrate their story problem.

 After all groups are finished with their page, combine all pages and add a title page that reads, *10 Ways to*

 *Get 20.*

**Discuss:**

1. (10 minutes) Come together as a class to the carpet and read your class book, *10 Ways to Get 20.* Have

 students discuss how they came up with their equations using the cubes. What would you do differently if

 you had no cubes?

**Informal Evaluation:** As each partner group is working, walk around to monitor how students finding their equations and solving them. Make sure that the story problem matches the equation.

**Formal Evaluation/Exit Ticket:** The exit ticket is the completed page for the class book that has the correct equation, story problem and illustration.

**Meeting the Needs of the Range of Learners**

**Intervention:** Some students may struggle with equations with more than two addends. You may want to start with a stick of 10 unifix cubes instead of 20 to make equations that add up to 10.

**Extension:** An extension could be that groups have a card with a certain number like 35 with no cubes and they have to come up with the equations with a sum of 35, or a number of your choice.