**Rolling More**

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| In this lesson, students will identify the number of objects in a group as greater than, less than, or equal to the number of objects in another group, for numbers 1-5. Students will understand the relationship between number labels (such as “4” naming a collection of four) and quantities. They will understand that counting by ones increases the quantity by one more. |

**NC Mathematics Standard(s):**

**Compare numbers.**

**NC.K.CC.6** Identify whether the number of objects, within 10, in one group is greater than, less than, or equal to the number of objects in another group, by using matching and counting strategies.

**Additional/Supporting Standards:**

**Know number names and the counting sequence.**

**NC.K.CC.1** Know number names and recognize patterns in the counting sequence by:

* Counting to 100 by ones.
* Counting to 100 by tens.

**Count to tell the number of objects.**

**NC.K.CC.4** Understand the relationship between numbers and quantities.

* When counting objects, say the number names in the standard order, pairing each object with one and only one number name and each number name with one and only one object (one-to-one correspondence).
* recognize that the last number name tells the number of objects counted regardless of their arrangement (cardinality).
* State the number of objects in a group, of up to 5 objects, without counting the objects (perceptual subitizing).

**Standards for Mathematical Practice:**

1. Reason abstractly and quantitatively.
2. Construct viable arguments and critique the reasoning of others.
3. Model with mathematics.
4. Use appropriate tools strategically.
5. Attend to precision.
6. Look for and make use of structure.

**Student Outcomes:**

* I can identify the number of objects in a group as greater than, less than, or equal to the number of objects in another group, for numbers 1-5.
* I can understand the relationship between number labels (such as “4” naming a collection of four) and quantities.
* I understand that counting by ones increases the quantity by one more.

**Materials:**

* Objects to be counted (such as red/yellow counters or snap cubes), about 20 per student
* Five frame, 1 per student
* Dice, 1 die per pair of students

**Advance Preparation**:

* Review the Standards for Mathematical Practice and select those that you will focus on during this lesson.
* Create a list of students who will be paired to work together during this lesson.
* Reproduce copies of five frames, 1 for each student
* Place counting objects and die for each pair of students in small self-closing bags.

**Directions:**

1. Model how to play the game with students.
2. Organize students in pairs.
3. Distribute five frames, counters, and dice.
4. Student 1 rolls a die, says how many pips are on the die (without counting), then places that number of counters on his/her five frame.
5. Student 2 rolls, says number, and places same number of counters on his/her five frame.
6. Students compare their five frames and repeat the numbers they are showing.
7. Student 1 says, “I have . My number is (greater than, more than, fewer than, less than, or equal to) yours.”
8. Student 2 says, “I have . My number is (greater than, more than, fewer than, less than, or equal to) yours.
9. The student with the greater number takes all the counters.
10. Students repeat game until no more counters are available.
11. Player with the most counters wins.

**Questions to Pose:**

As students play the game:

* How did you decide how many counters to place on your five frame?
* Tell me how you know your number is (greater, fewer, equal) to that of your partner?
* If you wanted to make your number equal to that of your partner, what would you need to do? How do you know? Show me.
* Explain to me how you might decide if your number is more or less without counting?
* How many more would you need to make 5? To make 10? Prove that to me.

**Possible Misconceptions/Suggestions:**

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| **Possible Misconceptions** | **Suggestions** |
| Student cannot tell instantly the number of pips on a die. | Give the student additional practice with quick images activities by showing dot cards with the pattern of pips without counting them. This helps student learn to subitize numbers which is the beginning of unitizing. |
| Student cannot tell which is greater or less. | Have the student compare the counters using one to one correspondence. |
| Student rolls a 6 on the die. | Student loses his turn or can roll again. |

**Special Notes:**

This activity provides an opportunity for teachers to assess students’ abilities to subitize (instantly recognize) the number shown on the die when rolled. Teachers can also assess student understanding of the concept of cardinality (knowing that the last number counted defines the quantity of the collection and understands that all the numbers coming before the last number are included in the collection). When asked, “How many?”, the student can tell the final count without recounting or renaming each counter.

Five Frame

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Ten Frame

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