Jessica Guckin

Title: Domino Name Collections

Grade: Kindergarten

Objectives:

- Using the Dominos and number cards, students will be able to represent a given number (0-12, or 18 for advanced students) with manipulatives.
- Using the Dominos, students will be able to count a set of manipulatives to match a given number.
- After using the Dominos, students will be able to count manipulatives and establish a number-to-object relationship.
- Using the appropriate Dominos (for advanced students only), students will be able to combine two sets of objects and find the sum.

PA Academic Standards:

2.1 Numbers, Number Systems and Number Relationships-

B. Use concrete objects to represent quantities up to and including 20

C. Represent equivalent forms of the same number through the use of concrete objects and drawings up to and including 20.

G. Count, read, and write whole numbers 0 to 20

F. Use concrete objects to demonstrate understanding of one-to-one correspondence up to and including 20

2.2 Computation and Estimation

D. Use concrete objects to explain the results of joining and separating sets of objects in quantities up to and including ten

NCTM Standards:

Number and Operations-

* Understand numbers, ways of representing numbers, relationships among numbers, and number systems

Expectations:

- count with understanding and recognize "how many" in sets of objects
- develop a sense of whole numbers and represent and use them in flexible ways, including relating, composting, and decomposing numbers
- connect number words and numerals to the quantities they represent, using various physical models and representations

* Compute fluently and make reasonable estimates

Expectations:

- develop and use strategies for whole-number computations, with a focus on addition and subtraction
- develop fluency with basic number combinations for addition and subtraction

- use a variety of methods and tools to compute, including objects, mental computation, estimation, paper and pencil, and calculators (however, no calculators will be used with my specific lesson)

Goals – Become confident in their ability to do mathematics.

Materials/Tools:

A set of Dominos
Number cards (0-12)
Foam dice (large)
Follow-up sheet (attached)
Markers / Pencils / Crayons
Chalkboard easel

Procedures/Instructional Components:

- Anticipatory Set
  - Following the calendar routine, I will introduce the domino game to the students.
  - I will ask, "Have any of you ever seen, used, or played with Dominos before?"
  - Using the dice, I will show them that they are like the Dominos, except they are combined on one piece of plastic.
  - I will show them how the number 2 can look like one dot on each dice, like the top of the dice in the picture to the right.

  - I will ask, "Are there any other ways you can use the two dice to represent the number 2?"
  - I will tell them that they will be working in small groups for this activity.
    - (This is a cooperative learning activity.)
  - I will give them another example using the dice (5 and 2) and ask them how many dots there are all together.
    - After students tell me the number (7), I will start explaining the details of Domino activity.

- Time Intervals
  - Anticipatory set: 5-10 minutes
  - Activity: 10-15 minutes
  - Closure/Assessment: 10-15 minutes
  - Follow-up/Assessment: 5-10 minutes
- Activity (Assignment)
  - I will tell the students that what they just did is like what they will be doing. The difference is that instead of telling me the number, they will be placing the Dominos by the card with the same number written on it.

  * This may be a trouble spot, only because the directions may be confusing.
    - So, they will be putting the Domino by the card that has the number of dots on the Domino written on it.
    - With an advanced group or as an extension of the activity, the Dominos used can include up to 9 dots (on each half), and the cards would need to go from 0 to 18.

  - I will ask the students if they have questions and answer their questions.
  - I will tell them that they can spread out their number cards 0-12 on their table

and start using the Dominos now.
- Students will be counting or adding the dots on their Dominos. They will be matching the Dominos with the number card that has the total number of dots, or sum, on it (Domino with 8 total dots will be next to number card 8).
- As students work, I will monitor their progress. This includes watching how they match the Dominos to the cards. I will make sure they understand the activity and if they do not, I will ask them questions to help them figure it out. (ex: "Let's look at this Domino you have by the number 9. How many dots are on this half? How many are on the other? So how many do you have altogether? Is that the same number as on the card you have it by?)
  - (This connects to addition because the students can add one half of the Domino's dots to the other half to help them understand addition.)
- I will also be evaluating their work when they have all their Dominos next to a card, and consider this knowledge as a part of my assessment.

- Closure activity
  - After the Domino activity, I will call the students up, by table/group, to the reader's corner (with a chalkboard easel).
  - I will have each student come up and draw their own Domino on the sheet (see attached) that has the correct amount of dots for the number I wrote on the line next to the picture of a Domino. I will have them say the number of dots total on the Domino to the rest of the class when they are finished.
    ~ This sheet can also be given to students as a follow-up activity. They can complete it the next day in class (individually). Then, their completed sheet could be used as a form of assessment. There can also be modifications made. For example, the teacher could fill in some parts of the sheet by writing a number on the line or drawing in dots on some of the Dominos.

Assessment:

To assess a student's ability to represent a given number, I will watch them when they work in their groups to see if they understand to put the Domino next to the right number card. If they have trouble with the activity toward the end, I will put a check next to their name (on a piece of paper listing their names). I will also use their Domino example done in front of the class as a second part of this area. To assess how well the student can count a set of manipulatives to match a given number, I will watch if the student is able to correctly count the number of dots on the Domino and put it next to the corresponding number card. If I notice they added the two sides of dots on the Domino relatively quickly, and they were not counting them, I would mark a star next to their name (to show that they were adding or counting on, instead of counting each individual dot on the Domino). Another way to assess this would be to have the students complete the sheet individually and evaluate their work. Lastly, throughout the activity and during the closure, students will be constructing a number-to-object relationship. This will be accomplished when they successfully match the Dominos to the appropriate card. This can also be assessed when students create their own Domino during closure time on the sheet.

Consideration of Next Steps:

- I think this activity would be a good way to introduce the concept of the word "sum." You would have to clarify that it was not the same word as "some" even though they sound the same.

* Adapted from: Jean, B., Bell, M., Freedman, D., & Hanvey, N. (2004). Kindergarten everyday mathematics. 2nd ed. Chicago: Wright Group/McGraw-Hill.