


Unit 5  Week 5	Small Groups: Number Line Game Low to Medium Support	Math SG 2	Standards: MELDS.M.CCC.PS.1 MELDS.M.CCC.PS.2 MELDS.M.CCC.PS.4
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<p>Guiding Math Ideas:</p> <ul style="list-style-type: none"> ● Rote and Rational Counting. ● Quantity- Reinforcement of all Related Concepts. ● Problem Solving- Acting out Problems <p>Math Concepts from Unit Learning Progressions:</p> <ul style="list-style-type: none"> ● Rote Counting Strategies. ● Rational Counting Strategies: Connecting groups to number names- stable order (Unit 4) ● Numerals communicate and represent math ideas. ● Using the Number line for Counting.

<p>Materials:</p> <ul style="list-style-type: none"> ● Paper plates with numerals 1-10 on one side and sticky dots of the number on the other side ● Blue painter’s masking tape ● Number cards 1-10 (Optional) ● Classroom Number Line poster, if visible ● <i>10 Black Dots</i> by Crew (from Unit 1, used as extension ● <i>Goodnight Numbers</i> by McKellar (from Unit 1- used as extension. 	<p>Math Vocabulary:</p> <ul style="list-style-type: none"> ● People Math: using our bodies to do math ● Number Line: the order of numbers as we count ● Counting On: Adding some numbers to the number line ● Counting Back: Taking away some numbers from the number line.
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Preparation:
Adjust your Small Group so that there are 10 children (or combination of teachers and children to equal 10). If this is not possible, modify the numbers to match your groups.
This Small Group is not done at tables. It is active and requires room for the children to move around
Tape a long line on the floor- Hallways are perfect places for the Number Line Jump.
Designate one end as 1 and one end as 10.

Procedure:
Move children to your prepared area and introduce the activity.
*We have our number chart on the wall. We have been using it all year to help us count. Do you remember what **People Math** is? We just did some people math when we made groups with our Five Creature book. Today we are going to make our own **number line** using People Math. The number line gives the order for our counting.
See this line on the floor. What numbers does it have?*

Children look at line and notice 1 and 10.

There are a lot of numbers missing! Let's make our number line

Give each child a paper plate. Mix the plates up. Call out the numbers in random order. Shuffle plates and repeat.

Our plates have another way to show numbers.

Show sticky dot side.

Can we put ourselves in order using only the sticky dots?

Ask children to turn their plates over and use the sticky dot side. Count dots as needed and have them arrange themselves using only the dots.

Add variety: Play missing numbers by a blank paper plate for a number, and asking children to problem solve and find what number is missing. **Count on** and **count back** by adding and subtracting children.

Have children draw cards for their number.

Strategies to Provoke Math Thinking:

- Rote to Rational: This activity combines rote counting, memorizing the numbers in order, with rational counting- counting the sticky dots, thus connecting cardinality to number sequence.
- Math patterns and relationships. This activity reinforces the 1+ pattern that appears in several activities in Unit 5. Patterns are special types of *relationships*. More, less, and equal are also *relationships*- only meaningful in context.
- Subitizing: Arranging the sticky dots. Research shows that children are able to subitize easily up to 6 items. Arrange the dots on plates numbers 1-6 in similar pattern to dominoes or dice. For 7-10 make groups of your choice- 7 could be 4 and 3, or 5 and 2, etc. By this point in the year, many children will subitize, and may be able to count on for the larger numbers.

Adaptations for additional Learning:

- Create a giant 10 frame with tape on the floor and use paper plates as the counters. Place a basket of manipulatives on the floor nearby. Children can experiment with comparing groups.
- Do you have a long hallway? Extend the number line to 20 for children who are mastering rote counting to 20 and beyond.
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Documentation:

This is an in-the-moment activity. Make a mental note of a child's competencies and counting errors and repeat the activity often. It will probably be a favorite.

Provocation:

- Make connections with concepts, books and materials that were introduced at the beginning of the school year. Here are 3 suggestions:
- *10 Black Dots* used in Unit 1 has more random arrangements of dots, but can serve as a reference for children. Place in the book or math area.
- *Goodnight Numbers*, also from Unit 1 represents number in at least 4 ways on each page, which is something that children may not have noticed or understood at the time. Place this book in the math center again. Sets, 10 frames, tally marks, sets, and counting in 5 different languages all appear in the book.

- Playing dominoes: If the dominoes have been stored for a while, bring them out and place them in the math center again. Children who initially used them as a building tool can play match and count games.

** This activity and strategies are adapted from Number Line Jump, an activity in Big Ideas of Early Mathematics, 2014 by the Erikson Early Math Collaborative*