

<p>Unit 6</p>  <p>Week 2</p>	<p>Small Groups: Counting on Vegetables</p> <p>Medium Support</p>	<p>Math SG1</p>	<p>Standards: MELDS.M.CCC.PS.5 MELDS.M.OAT.PS.4 MELDS.M.OAT.PS.5</p>
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Guiding Math Ideas:

- Review and Reinforcement of Counting Strategies and Quantity – Counting On
- Beginning Operations: Adding and subtracting through Representation

Math Concepts from Unit Learning Progressions:

- Applying the many “languages” of math in multiple contexts
- Counting on or Counting back Using Story Problems to Visualize Operations

<p>Materials:</p> <ul style="list-style-type: none"> ● 1 <i>Big Salad</i>, Juana Medina ● Vegetable Photograph Cards resource ● 4 3-Dot Dice ● Box ● 4 Small Number Paths on Sentence Strips (Make your own or use Sample Vegetable Number Paths Teacher Resources) ● How Many? – Sentence Strips ● Pencils, Crayons, or Narrow-Line Markers ● Individual storage bags or boxes, such as zipper-top bags, paper sacks, folder, etc. 	<p>Math Vocabulary:</p> <ul style="list-style-type: none"> ● Number Path-numbers arranged in a long line starting with 1 ● Counting on- adding on to a number to get a larger number <i>without going back to the beginning</i> ● How many?- the number of items in our group
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Preparation:

This is a Number Path game similar to W2 Large Group. This game takes some preparation, but materials are reused in SG 2 and are placed on math shelves for continued exploration and learning. This Small Group has 2 parts: The Number Path Game and the optional free-art part that follows when children begin making their Vegetable Creatures that they will use in Small Group 2.*

Prepare Game Materials: Copy vegetable photographs and cut apart into small cards, making plenty of copies for your small group to create sets and to draw their own creatures. There are 9 pics of each vegetable on a page—Suggest that you have at least 2 pages (18 photos) of each vegetable. Group vegetable pictures together- all the broccoli, all the peppers, etc.

Photos are small with a light background so that children can easily add legs, ears, etc. with the drawing materials, and combine several creatures on one page.

Make 4 Small Number Paths, using sentence strips, numbering at regular intervals from 1-15 (See sample in Teacher Resources). You can make number paths shorter (1-10) or longer (1-20) based on your

particular group of children and their mastery of the stable order rule and counting strategies. The shorter the number path, the quicker the game will be over. Children will work with a partner. Try to partner children with more complete understanding of quantity and number order with those who need more assistance.

Write **How Many?** on 2 sentence strips, so that each side of the table can see this important question. Keep out a set of the different vegetable pictures and place the remaining vegetable photos in the box for children to draw from during the game.

Set Up Table: Place Number Paths on the table, 2 to a side, so that children are able to “read” the number line from left to right, **How Many?** Strips and Dice. Each group of 2 children needs a die.

*A Number Path is similar to a Number Line, but contains only the whole numbers in succession. Number Lines more closely resemble a ruler with marked intervals between the numbers.

Procedure:

In Large Group, we read 1 Big Salad. There were lots of vegetables in that salad. We did the Number Path Hop. Today, we are going to play the number path game using vegetables. We LOVE math games!

Review book with children, point out numerals, number words and count the creatures.

Introduce the game. Show some of the vegetable pictures and have children name them. Ginger is a possible “Ugly Vegetable” and a link to the current read-aloud. Place box of vegetable pictures in middle of table.

You have a long strip of paper in front of you and your partner. Who remembers what this special way of writing numbers is called?

Some children may answer **number path**.

*Yes it is a **number path**. That is a way of showing the order of numbers. In this game we will be **counting on**, just like we did in Large Group. We will **count on** to our number when we roll our dice again.*

Ask for definition and clarify the idea as needed. Demonstrate the game.

Roll a die. Read the number. Reach into the box and get that number of vegetable pics. Place each vegetable picture under a number on the number path. Then roll the die again, reach into box, and place the additional pictures. Be sure to model the counting on process.

*We have 3 vegetables. Now we rolled a 2. We are going to add 2 more vegetables to our line. **How many** vegetables do we have now?*

Children give answers.

*Yes, now we have 5 vegetables. What should we do when we hear the question, **How Many?** When we reach 15 we have enough vegetables for our Big Salad! We can start again. Be sure that you **STOP** and ask **How Many?** to add vegetables to your number path. Take turns with your partner in rolling and drawing out vegetables from the box.*

Provide support for children as they work on counting on. Some children will easily count on. Other children will be working on 1:1, number order, and cardinality. Add a **How Many?** question as needed. Encourage children to “read” numbers, naming vegetables & quantities.

Would you like to make some Vegetable Creatures now?

If time permits, children begin drawing on the vegetable photos, making their own creatures. As SG time ends, place materials in art or another center for children to work on during the week prior to SG 2 and store children’s vegetable creature work in individual bags for use in SG 2.

Strategies to Provoke Math Thinking:

- Scaffolding using the Number Path: To use a number path effectively and experiment with counting on, children must have a sense of cardinality/quantity. They must be able to “hold” a number in their minds, such as a 5 and then add three more. Children who have not yet fully grasped cardinality will typically start over and count from the beginning of the number path to tell “how many.” Scaffold children’s learning by pairing a child who has a sense of cardinality with a child who does not. One partner can roll the dice and point to the number and draw vegetables from the box. The other partner can then roll the dice and “count on” additional vegetables. If counting on is too difficult for some children, adapt activity to match their current counting skills and understandings.
- Number Path vs. Number Line: See the article *Number Path Games* in *Teaching Young Children*, April/May, 2019 for more information about using number paths with preschoolers. <https://www.naeyc.org/resources/pubs/tyc/apr2019/number-path-games>

Adaptations for Additional Challenge:

- Add Patterns: Reinforce/extend the pattern-making activities in Week 1 Flower Garden Mural. Use number path, dice and ONE copy of each vegetable photos as a guide so that children will know their choices. Place the rest of the vegetables photos (preferably grouped into like sets) nearby. Have children decide on a pattern, such as ABA or AABA, etc. and duplicate the pattern and write it on blank paper. They can use the dice to help create a pattern: Roll once- that number is the first one of the pattern, Roll Dice again- that number is the second one of the pattern. Roll a third time (remember that it takes at least 3 objects or sets to create a pattern). They can create a pattern in Number Path fashion, working individually or with a partner. 1 yellow pepper, 2 radishes, 2 asparagus, 1 yellow pepper.

Documentation:

- By using small groups of 2 children and isolating the counting strategy of **Counting On**, you will be able to observe key counting skills. Embedded in this game are: 1:1, Stable Order Rule, Cardinality, and Subitizing. Note skills you would like to emphasize during the final few weeks of the school year. You can repeat this type of game using manipulatives, varying its difficulty by type of dice and the length of the number path. This activity is also an excellent take-home activity for families to play together.

Provocation:

- Literacy/Art/Math: Placing the Creature-making materials in the Art center will make Small Group 2 more efficient and link art and math, as *1 Big Salad* demonstrates. Add number symbols and number words to the art center for children to practice. Encourage them to name their creatures and use invented spelling, or dictation.