Unit 6 Week 4	***Small Group: The Magic Box**** **Low Support**	**Math** **SG 1**	**Standards:** MELDS.M.OAT.PS.4 MELDS.M.OAT.PS.5

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Guiding Math Ideas:

- Review and reinforcement of counting strategies- Counting on
- Manipulating shapes
- Measurement as practical and purposeful

Math Concepts from Unit Learning Progressions:

- Using and applying rational counting to questions of quantity.
- Comparing groups of numbers < > + -
- Depict understandings of sequence and time

Materials:

- *Jack the Builder*, Stuart Murphy
- 4 small boxes with openings in top (Such as empty Tissue Boxes)
- 3-D colored blocks
- Dice- Four 3-dot
- Small Number Paths (from Week 3, SG 2)
- Small bell or timer

Math Vocabulary:

- Number Path-numbers arranged in a long line starting with 1
- Counting on- adding on to a number to get a bigger number *without going back to the beginning*
- How many?- the number of items in our group

Preparation:

While this activity is based on the story in *Jack the Builder*, you do not have to read the book first. Use the book as a resource, or read at another time.

Assemble materials on the table, placing a magic box, a dice and a number path in front of every two children. Children work in teams. If you have room and materials, each child can play his/her own game.

Procedure:

We are going to play a Math Game! Yeah! We love Math Games! This game is called ***The Magic Box****. You will play with a partner. Let's all put one block inside our team's magic box.*

Children place a block inside their team's box.

*Let's Play. One partner can roll, and you can count the blocks together and put that many in your box. You can use the **number path** to help you keep count on and keep track of how many blocks you think are in your box. When I ring this bell: (Ring bell) **Guess** how many are inside. **Stop**, **Pour** and **Count**. Remember- No Peeking!*

Model playing the game as needed. Teammates take turns rolling, guessing and counting. They can vary the number of times they want to roll before they Stop, Pour and Count. Use a set number of rolls or a goal (See Strategies).

Vary times to ring bell, or if numbers of small group are uneven, choose a child to be the bell-ringer.

Work together to think of ways you can keep track of how many blocks you think are in the Magic Box.

Model how to play. Here are some suggested counting strategies: Roll the die, choose that many blocks from the pile, and throw them in the Magic Box. Use your finger to move and count on the number path and model guessing **how many all together** are inside.

*I wonder **how many all together** are inside my Magic Box?*

Reinforce math relationships, such as more, fewer, and equal.

Do you need more? Do you need fewer? Do your blocks = ?

If you have time, introduce book Jack the Builder, turning pages and showing children how Jack added one more block each time to his structure.

Here is a book about Jack the Builder, and he made a lot of things by counting on blocks. Each time he added a block he made something different. You can look at this book and see how he did it. Now that you have a lot of blocks, you can play again, or you can build something.

Place *Jack the Builder* in the Small Group Area for children to explore and build.

Strategies to Provoke Math Thinking:

- Specialized math books: Stuart Murphy creates leveled math books and many Level 1 books can be adapted for PreK use. Murphy's books clearly focus on a specific math concept, and have a list of activities to expand learning.
- Add challenge on the spot: If the game seems too easy or children are losing interest, it only takes a few seconds to adapt. Work on equivalencies and relationships. Give the teams a set number of dice throws OR a Goal of 10 blocks .Teams compare their numbers of blocks at the end of 3 throws. Which team has more, fewer, the same? Which team will get to 10 blocks first?
- Time: Embed understandings of time in classroom activities to help children's growing understanding of this abstract quality.
- Links to other Units and Concepts: Similar activities and books include U1, Building Houses, U2 Shake a Shape and *Changes, Changes*, U4 Roll a Shape Pictures.

Adaptations for Additional Challenge:

- Use a 6 dot dice and a longer number line, up to 20.
- Omit the number path for children who are already adding numbers "in their heads."
- Choose a number on the number path and have children build a structure using exactly that many blocks, based on the *Jack the Builder* book.

Documentation:

Choose a number between 2 and 10 and assess children's abilities and understandings of the numbers inside of numbers. See Tracking Tools for sample.
Provocation: Place *Jack the Builder*, Magic Boxes and dice in the block area for children to use during Center Time.

*This activity is based on one suggested by Stuart Murphy in *Jack the Builder,* (2006).