#### DISCOVERING THE MATH: BOOK GUIDE



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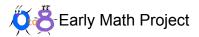
Olivia visits the farmers' market in hopes of finding an item that fits perfectly in her basket. She tests different fruits and vegetables to find the perfect fit.

Ages: Birth to 3 years

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# What will Fit?

#### What will fit in Olivia's basket?

**Topics:** spatial reasoning, comparisons, positional words, spatial relationships

#### **Activities To Do Together:**

Use the book *What Will Fit?* to strengthen spatial reasoning awareness by using positional words to describe spatial relationships.

Before reading the book:

- Ask your child to describe where some of their favorite toys are located. Use words like next to, on, under, and above when talking about the position of objects.
- Give your child a chance to explore how things fit in different-sized containers. While they are exploring, offer encouragement and emphasize spatial vocabulary.
- Encourage your child to explore moving different shaped objects around, inside, under, and on top of a variety of containers.

While reading the book ask your child:

- To predict what they think will fit in her basket.
- To describe the location of the fruits and vegetables in relationship to the basket.

When you have finished reading the story try the following:

- Count the number of vegetables she tries to fit in her basket.
- Ask your child to compare how the object looks from different angles. Does it look different from different angles? Why do they think that is?
- Help your child take pictures of an object from different angles then analyze the pictures together. Encourage your child to compare how it looks from the top, the front, the side, the bottom, and the back. What else do they notice?
- Encourage your child to explore spatial reasoning by playing hide-and-seek or building their own hideout.
- Explore how size influences how objects fit. Ask your child to pick a handful of similarly-sized objects and investigate what will fit in a container.

## Conversations During Daily Routines for Infants & Toddlers:

- Tummy Time: Talk about where objects are positioned around your baby. "The stuffed bear is in front of you," "The blanket is under you."
- 2. Meal Time: While eating, talk about where the food is on the plate. By indicating where food items are, you are not only introducing new positional words but reinforcing the names of items they interact with. For example, you can say, "Take a bite of some broccoli that is behind the chicken and on top of the carrots.
- 3. Bath Time: Use a container during bath time to explore what can fit and the concept of empty and full. Fill the container with water and empty it. Point out when it is full and when it is empty. Use a different sized container to fill up with toys. Count how many toys are in the container. Use positional vocabulary when you place the toys in the container. "The duck is inside of the container.
- 4. Traveling Time: While taking a walk, point out where the cars, birds, houses, and other outside items are located in relationship to you. What other locations can you explore spatial relationships?

#### **Questions for Mathematical Thinking:**

- 1. What would have happened if Olivia tried to fit more than one item in her basket?
- 2. How can you place objects in containers to make more fit? Is there a way to place objects so less will fit? How?
- 3. What helps you figure out what can fit in a container?
- 4. Were there foods in the story that would have filled the basket completely if Olivia had placed two of each in the basket? If so, what were the foods and why do you think they would have filled the basket? What two objects do you think would fill the basket?

#### Early Math Project Resources:

Special Hideout (English)

Storytelling Structures (English)

Follow this link for additional online resources.

#### Vocabulary

Math words found in the story: bigger, long, size, small, tall, wide

#### Related math words:

behind, between, comparisons, down, in front, inside, into, next to, under, up

Words to build Reading Comprehension: either, enough

**Spanish Title:** ¿Que Llenara Canasta?

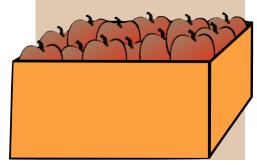
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#### **Related Books:**

Birthday Box by Leslie Patricelli; Clean Up, Up, Up! by Ellen Mayer

Click this link to the <u>World Catalog</u> or enter bit.ly/3VTAU6C in your browser, to find *What Will Fit?* in the public library.



Early Math Project

#### **Math Connections:**

Use *What Will Fit?* to talk about spatial reasoning, spatial relationships, and comparing sizes and shapes with your child.

This book explores the idea of testing to see what singular object fits perfectly into a basket. Exploring what fits inside another object builds a child's spatial reasoning. This is important for later success with math. Spatial reasoning includes a variety of abilities that relate to how objects move and appear in relationship to each other, how objects fit together, and how they appear from different angles and positions. Building an understanding about spatial reasoning can help a child learn how to manipulate and describe objects in their environment while doing math and other school subjects. Give your child a chance to explore how things fit in different-sized containers. While they are exploring, offer encouragement and emphasize spatial vocabulary. For example, if your child placed a ball into a box, you can say, "The ball is **inside** of the box." Ask them to put the ball **under** the box or on the side of the box." Encourage your child to explore moving different shaped objects around, inside, under, and on top of a variety of containers.

Another way to help your child develop spatial reasoning is by looking at objects from different angles. As you or your child rotate an object, share what you both see from the different viewpoints. Ask your child to compare how the object looks

from different angles. Does it look different from different angles? Why do they think that is? Looking at objects from different angles can also be experienced through photography. Help your child take pictures of an object from different angles then analyze the pictures together. Encourage your child to compare how it looks from the top, the front, the side, the bottom, and the back. What else do they notice?

> Explore spatial relationships in the environment by using spatial vocabulary to describe where objects are located. Use words like next to, on, under, and above when talking about the position of objects. Ask your child to describe where some of their favorite toys are located.

For example, are their toys **on top** of a book case or **inside of** a box? Ask your child to tell you



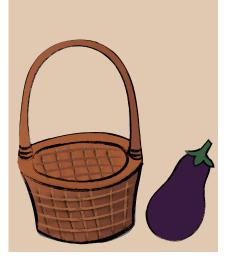
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about the location of a variety of objects in their environment. Consider playing a version of the game "I-Spy" in which one person has to describe the location of an object so that the other person is able to guess what object they are talking about. It might sound like, "I am looking at an object that is sitting **on** the floor. It is **next to** the green chair. It is **between** the dog's bowl and the leg of the chair. What is it?"

After reading the book, go back through the book and describe the location of the fruit and vegetables in relationship to the basket. Ask your child what they see on the pages, providing them with a model to follow. For example, you can point out that, "Before Olivia puts the zucchini in the basket, the zucchini is laying **in front** of the basket."

Encourage your child to explore spatial reasoning by playing hide-and-seek or building their own hideout. Figuring out where and how their body fits in certain spaces gives children an understanding of how their body moves in space and their surroundings.

It is also important to explore how more than one of the same object may fit perfectly in a container. Discovering if more than one object can fit opens up the conversation about comparison. Why does the quantity of objects that can fit in the basket change from object to object? Explore how size influences how objects fit. Ask your child to pick a handful of similarly-sized objects and investigate what will fit in a container. How many objects can fit? Count them together. If they change the orientation of the objects, will more or less fit? Try this with different objects. Compare the size of the objects. How many of each type could fit? Does the size of the objects affect the number that will fit? Ask your child to compare two of their favorite toys. What is similar about them? What is different? If they had more than one, would they fit in a container together? How can they find out?



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Age Level	Related <u>Infant Toddler Foundations</u> and <u>Preschool Foundations</u>
Infant/Toddler	<b>Spatial Relationships</b> The developing understanding of how things move and fit in space.
Preschool/TK	<b>Geometry 2.0</b> Children begin to understand positions in space. <b>2.1</b> Identify positions of objects and people in space, such as in/on/ under, up/down, inside/outside, beside/ between, and in front/behind.

