NEW JERSEY PRESCHOOL TEACHING GUIDELINES VIDEO SERIES -FULL TRANSCRIPTION-

VIDEO 3: "Exploring Math Every Day."

[Narrator]
In this video, the third in a three-part series based on the New Jersey Preschool Classroom Teaching Guidelines, you'll see how preschool teachers incorporate math thinking and learning throughout the day. You'll see active engagement in math learning during both small and large group times, as well as during play in a variety of centers. As we explore math in the classroom, you'll see number sense that includes quantities, one to one correspondence and using numbers. We'll examine math content and skills including geometry and spatial relations and measurement. We'll see how children use math processing skills, problem solving, designing and analyzing representation and making math connections to the real world.

[Live Conversation]
[Teacher] If you wanna be an architect and an engineer and build houses or bridges, you use drawings to help you.

[Narrator]
Finally, we'll think about how math can be infused into the preschool environment all day, every day.

[Dr. Holly Seplocha, E.C Prof William Paterson University]
Math is important in preschool because math is important in our lives to be functioning adults. Young children have the ability to think mathematically, to solve mathematical problems, to make mathematical connections and to learn about and use mathematical terms. Math in preschool is much more than just counting. It involves number concepts, sequence, patterning, measurement, problem solving.

[Narrator]
Let's begin with number sense.

[Kathleen Molina, Teacher]
I think that every child is at a different level of math learning and we have to know where they are so that we can support their learning with the materials and activities.

[Live Conversation]
[Teacher] What song do you want to sing at what time of the day is this? [Child] At large group time. [Teacher] - At large group time.

[Michelle Angelo, Teacher]
The children graphed what song they wanted to sing at large group time.

[Live Conversation]
[Teacher] And while she's writing it, we're gonna write it. Across, down and around. So now if we have five friends who want to sing Five Little Monkeys and five friends who want to sing Five Little Ducks, that means it is equal.

[Michele Angelo, Teacher]
I didn't know that it was going to be equal So I took that teachable moment to have them see it visually and to use their hands. Counting five fingers on one hand, five fingers on the other hand to show them that they're the same, that we have five and five and then I did put the equal sign so that they can relate. Same and equal, that it means the same thing.

[Live Conversation]
[Teacher] It is the same.

[Matthew Marino, Teacher]
My unit of study is apples. We're doing math activities, patterning, measuring. In the house area, the children are working with apples doing one to one correspondence putting the apples one to a plate, serving each other, serving the baby dolls. Today we were transitioning to work time, and we use number puzzles. Everyone got one piece and their piece had the dots with the number on it. They had to count their dots, and I would pull a number and say who has this number.

[Live Conversation]
[Teacher] Who has six? Camille, you have the six? Okay. Where would you like to work, Camille?

[Matthew Marino, Teacher]
There's lots of math skills within it. One to one correspondence, counting, quantity, recognizing numerals.

[Narrator]
Math comes in all shapes and sizes. Recognizing and comparing shapes, and interpreting spatial relations, are the foundation for learning math content and skills.

[Live Conversation]
[Teacher] So your cards have little dots on them, and we want to cover them up. Cover up your little dots.

[Kathleen Molina, Teacher]
When I set up this small group, my intention was numbers and counting. I set up dot cards for the students to put bears on to cover the dots. Some of them did and some of them just took it another direction.

Live Conversation
[Teacher] Look at Geraldo. He lined up all the bears on top of the basket.

[Kathleen Molina, Teacher]
Lining up the bears and setting them up all around the perimeter gave us a chance to talk about arrangement and spatial relations.

[Live Conversation]
[Teacher] There is one more - Where will he fit?

[Kathleen Molina, Teacher]
I try whenever possible to introduce new vocabulary. To extend the spatial relations, I pointed out that he was putting the bears all around the perimeter of the basket.

[Live Conversation]
[Teacher] Now all the bears are going around the basket? You're putting them all around the perimeter. That's what it means when you put them all around the outside. Let's see if they all fit.

[Teacher] Let's go to the right and see this enormous structure that somebody built.

[Giselle Buttler, Teacher]
During work time I was amazed by the structure that Giovanni had built in the discovery area.

[Live Conversation]
[Teacher] How many more squares do you need to make it the same level? And you don't have any more squares? You built a square using the two triangles. Is it a per-?It's a perfect fit! It's a perfect fit.

[Teacher] Now over. - You went over the number nine.

[Giselle Buttler Teacher]
Juan began jumping on the rug. And to give him more focus, we started talking about how he went over the numbers. Jumping forward, backward, over. He was playing and I was saying it as he was doing it. It was an opportunity to infuse learning about spatial relationships.

[Live Conversation]
[Teacher] Do you know what this is used for? [In Spanish] - "Do you know what this is used for?"

[Giselle Buttler, Teacher]
They took the measuring tapes, and I saw that they weren't really using them. I wanted them to see how to use them.

[Live Conversation]
[Teacher] Remember when we measured how many circles tall you were? Now we're gonna measure how long you are. [Teacher In Spanish] - "Come now you can come measure him." "Jenny put it here by his foot." "and here." [Teacher In Spanish]

[Giselle Buttler, Teacher]
I let them measure each other.

[Live Conversation]
[Teacher]"Here, is Juan."

[Teacher] You figured out that we can measure Spooky Cooky by putting all the apples on top of each other.

[Noemi Rivera, Teacher]
Our unit of study has been apples. And I thought why don't we measure with apples and count them.

[Live Conversation]
[Children] - One, two, three, four, five. [Teacher] -Spooky Cooky is five apples tall.

[Naomi Rivera, Teacher]
For this lesson we have a collection of small, plastic apples. I asked the children what can we measure? Somebody said, let's measure Spooky Cooky, the little ghost puppet. I followed their lead. They wanted to measure a block.

[Live Conversation]
[Teacher] What should we do, Angel? [Child] - Put it over here.

[Naomi Rivera, Teacher]
And then a car. And then a person. It was such a teachable moment. The kids are telling Brylee, you need to move down, it's not leveled off. When you're measuring, start at the same point. They took that lesson and they just flew away with it.

[Narrator]
Being a good problem solver is an important mathematical skill. Helping children to think in complex ways, builds on important math process skills they will need and use throughout life.

[Live Conversation]
[Teacher] How can we get that to stand up? - Ah, that was a great idea! - You solved the problem! - Now the cylinders won't fall down because there's something supporting them.

[Michelle Howell, Teacher]
During my interaction with Naomi, she was faced with a problem. How am I going to get the cylinder blocks to stand on the carpet. Naomi selected the square unit blocks as a brace for the cylinders.

[Live Conversation]
[Teacher] Daniella, do you know what this means? What do you see here? What's our message number one? [Daniella] - Girls. [Teacher] - You see some girls? [Daniella] - Yes. [Teacher] - One, two, three. [Daniella] - One boy. [Teacher] - And one boy. What do you think that message is? Right here this says visitors. We have special visitors today.

[Kathleen Molina, Teacher]
As a part of our greeting time, I've included four stick figures, three female and one male, and the word visitors. Knowing they couldn't read the word visitors, I wanted to give them a visual representation of what was happening today. They could look around and actually see who is in the room. Each figure up on the board actually represented a person that was there with us in the room. And that reinforces children's understanding of quantity.

[Dr. Holly Seplocha, E.C Prof William Paterson University]
When teachers connect math to children's everyday activities and life, they help make math meaningful for children.

Live Conversation
[Teacher] What is inside the mystery bag? This is our mystery bag. And we have to vote and see what do we think it is. Is it a rock? Or is it a... [Child] - Leaf! [Teacher] - Leaf. [Teacher] So I'm gonna pass it around and you can tell me what you think is inside. - Is it a rock?

[Kathleen Molina, Teacher]
We were taking a vote about what was in the mystery bag.

Live Conversation
[Teacher] What is in there?

[Kathleen Molina, Teacher]
We were tallying and part of teaching students how to tally and putting that slash up for the fifth mark is teaching them this little rhyme.

[Live Conversation]
One, two, three, four, - now we shut the door!

[Kathleen Molina, Teacher]
Some of the kids will actually raise their arms as though they're making that slash or they're closing the door, which will become a visual for them. It's important to make connections to their real life. If you can tie in an experience they've had, it helps to support what we're learning.

[Live Conversation]
[Child] Rocks. [Teacher] Rocks? You think there are rocks inside? One, two, three, four, now we shut the door!

[Live Conversation]
[Teacher] Yoga baby spreads his arms like a butterfly. So I want you guys to open up your arms, stretch them out, and close them. And remember, like Liam said, we're gonna breathe like a pattern, in out in out.

[Michelle Howell, Teacher]
While we were doing yoga, one child had mentioned how breathing was a very important part of yoga, which is true. And then I just linked it to a mathematical idea by saying that our breathing is following a pattern, breathing in and out, in and out. It was a way to tie their real world experiences into the yoga.

[*Live Conversation]*
[Teacher] - Oh! That's different. - Now look at Jonathan. Jonathan switched it so his leg is back.

[Teacher] Are you finished? Do you think you'll need to add more blocks? How many do you think? If you had to estimate and take a guess, how many more blocks do you think you need? [Child] A hundred. [Teacher] A hundred more blocks? - Wow! - Which blocks are we gonna use?

[Michelle Howell, Teacher]
I wanna use mathematical vocabulary as much as possible with the children so that they become familiar with those words every day during their play.

[Live Conversation]
[Teacher] Oh you mean the cylinders. - We could use the cylinders.

[Michelle Howell, Teacher]
So we use words like cylinder and estimate and predict and they can use them on their own.

[Live Conversation]
[Teacher] Now I see, Justin changed our schedule. What time of the day is it? [Child] - Large group time.

[Diane Herrera, Teacher]
A schedule is a great tool to make the kids comfortable and secure. They learn about sequencing, about predictability. They can learn words like before and after, and they can understand what those words mean.

[Live Conversation]
[Teacher] Good morning, Aiden. [Aiden] - I gonna work on the computer. - You're going to work on the computer too? You're gonna do that first, and what will you do secondly? - Play In the toy area. [Teacher] - The toy area? - Yeah. Okay.

[Natasha Davis, Teacher]
During planning time he said he was going to the computer area first. I wanna make sure they have a plan after that, so they need to think about what they're gonna do next. So by asking them what they're going to do first, second and third, I'm introducing them to ordinal numbers.

[Live Conversation]
[Teacher] Hi Illianna, what are you gonna do first? [Child] I want to play in blocks. [Teacher] In the block area?

[Teacher] So what can you tell me about the size of the shell? [Child] Put that one down here. - You can put one inside of the other one. Yes, If you see you are arranging them from the smallest to largest. You're doing seriation!

[Angela Feliz, Teacher]
I noticed that the child was exploring the materials. Different size and the different shapes. Putting one on top of each other. He was nesting them.

[Live Conversation]
[Teacher] - A few minutes until clean up time! [Child] - Five minutes! - Thank you, Stacy.

[Kathleen Molina, Teacher]
I know it's hard when children are engaged in an activity. We wanna give them a heads up warning. We did the five fingers in the sign. They don't really have an understanding of time just yet. But they do understand what's right in front of them. The number of fingers are getting smaller. The time is getting shorter.

[Live Conversation]
[Child] - Five minutes 'til cleanup time!
[Teacher] Look, do you know what I just noticed? What's this on her sock? [Child] - Lines. [Teacher] - Lines? - And circles. - So we see silver, - navy, - silver, navy.

[Stephanie Tsimpedes, Teacher]
To help children see patterns in everyday life, I make sure that if I do see a student creating a pattern, I ask them, tell me about it, and my hope is that they are able to read the pattern to me. And if they are unable to, I will give them the language.

[Live Conversation]
[Teacher] - We're gonna start red, green, red, green, red, green, red, what follows next? Look over here. - Yeah, green.

[Stephanie Tsimpedes, Teacher]
I want children to use math to make meaningful connections to their everyday life.

[Live Conversation]
[Teacher] At my house I have two floors and we call them stories, right? [Child] Yeah. [Teacher] So now we have two levels. [Child] I have stuff in my house. [Teacher] Can you go upstairs in your house? Do you have stairs in your house? [Child] Yeah. [Teacher] Yeah, so that's two for the next level, there's a second story, so that's two levels.

[Liteove Tighe, Director of E.C. Education, Passaic Public Schools]
The importance of math in preschool is teaching it all day long, because when you give meaning to the learning and the child can connect it to what they do daily, that learning becomes important to them and it'll stay with them. It will help them become more successful later on in life. These are skills that they need.

[Live Conversation]
[Teacher] - Where else did you work? [Child] Discovery. [Teacher] In the discovery. - I'm gonna add a tally mark to the discovery area, because you worked in the discovery area also.

[Dr. Holly Seplocha, E.C Prof William Paterson University]
Children are whole learners. They don't learn math during math time when they're playing with math materials only. It means looking for opportunities to integrate what children are doing and learning and discussing and knowing about so that children get the problem solving skills and get attention to the varying New Jersey standards that need to be addressed in Pre-K.

[Live Conversation]
[Teacher] What happened since I left, guys? [Child] I made another one. [Teacher] You made another one? It looks much taller than when I left. How did you get it so high?

[Narrator]
Math learning is happening for children during every part of every day. In addition to active observing, understanding, interacting and questioning, teachers intentionally and thoughtfully plan to embrace each moment and every opportunity. For more information about best practices in preschool classrooms, search online for the New Jersey Preschool Classroom Teaching Guidelines. A comprehensive document outlining how effective teachers support and enhance children's learning in high quality preschool classrooms.