

## **Project INSPIRE Lesson 7 (17:16)**

**SPEAKER:** Pre-Kindergarten - First Grade Students-- Nemeth Code within UEB Contexts and Strategies for Supporting the Student in Building Math Skills. This is lesson 7, Family Engagement to Support the Child's Success in Math.

Slide 2 has the six objectives for this lesson, which includes supporting the family and creating a positive environment, thinking about strategies to introduce family members to the Nemeth Code within UEB context, looking at ways routines can support a child's learning, exploring activities outside the home that the family can take advantage of, thinking about ideas of activities you can send home, and finally, giving the family some ideas to support the child in completing homework.

Slide 3 talks about how important it is to create a positive environment for learning. So we want to guide families to engage the child in activities. In the photo, we see a child who is using a measuring cup to pour an ingredient into a pot.

Having high expectations that children can engage in activities such as this, and promoting a can-do attitude. If families expect their child to be involved and to engage in activities, the child's going to take on that attitude. It's really important that all of us, including families, take advantage of opportunities, and that we're always thinking ahead to the future, so the experiences children have when they're young are laying the foundation.

Slide 4 talks about introducing families to Nemeth Code. It's important that you provide a print copy of materials so that families can refer to these. And I'll talk about that towards the end of the lesson. Explain the basics of the code. Help the family find opportunities to learn braille, including the Nemeth Code within UEB contexts. One resource for that is Hadley. There are other ones as well.

Thinking about introducing the family to others who are braille readers, and this could be children around the same age as their child, could be older children, or even adults. It's a great idea if you can invite family members to come to school to observe and take part in your instruction. It's always fun when your students get to be the teacher. And helping family members understand the assignments that their child are going to do, and the Nemeth symbols being used on these.

Slide 5 talks about how important it is to take advantage of typical routines. We actually have three pictures on this slide. We have a child cutting vegetables-- great opportunity to talk about shapes, to talk about how many pieces we're cutting, cutting something in half or into quarters.

A child getting something out of the refrigerator. It's in a rectangular container. Talking about sizes and shapes of containers-- top shelf, middle shelf, bottom shelf.

And another student who's buttoning a shirt. How many buttons are there? Are we buttoning, or are we unbuttoning? Are the buttons round or are they square? Lots of opportunities. So we list dressing, matching socks as well as the buttoning, are just examples.

Bathing, filling containers halfway in the tub, emptying the tub, filling the tub, counting the number of bath toys. Lots of things you can do at meal time, from getting and putting items away to having the student involved in food preparation.

Helping families recognize that having their child have jobs, like sorting the silverware from the dishwasher and putting it in the drawer, has value, as does setting the table. And then that idea of helping with cooking and measuring, let's say, 3 cups of flour or 2 teaspoons of salt. That would be a lot of salt.

All right. Slide 6 puts you to work. What math concepts come into play here? And I've got a container that has eight little brownies in it. I want you to think for a second. There's five people in this family. And our child is getting some ideas of how to help serve dessert. So what would you suggest? What concepts would come into play?

I bet you talked about counting. So here we have had the child count out five paper plates. So counting is a really great thing to talk about. You also could talk about the shapes of the brownies and the shapes of the plate.

Any other concepts that come into mind for you? Did you say one-to-one correspondence? One brownie on each plate? Did you say how many brownies are left in the container? Three. How many are on plates? Five. Lots of ways to bring concepts into a fun activity to give yourself and the other four members of your family a snack.

Slide 7 has even more ideas. The first is a shape sorter. There are different shapes. And when the child finds the corresponding hole and puts the shape in it, the child will hear music.

There are puzzles. These have had braille added to the pieces. There are also print numbers, so the child can feel the corresponding print shape.

We also see a picture of the APH tray divided into thirds, with different textured shapes. You could easily send this home so the child could sort squares, circles, and triangles. So lots of sorting activities that families can do, looking either at color, shape, size. This could be with socks and wash cloths and towels, those types of things, as well.

Thinking about differences-- which box is bigger? Which box is smaller? Which one is round in this group? Thinking about the ideas of having games, like Go Fish and War. You can send these home with both print and braille on them.

Help the family get a deck of adapted cards. There is now braille Uno. Having the family think about, when it's birthday times, holiday times, having family members pick out educational-type toys that will help the child in their learning.

Slide 8 lets us take it outside the home, so ideas that families can do out in the community, from the playground to the buildings that they go into. Is it a square lobby? Is the elevator button round? Restaurants, great opportunity for money. Even when you're sitting at the table, those little round coffee creamers-- how many of them are there?

Thinking at public places like gardens-- smelling flowers is great. Let's count the number of leaves on that flower. The aquarium-- how many fish do you see? What color are those fish? Which ones are the bigger fish? Zoos-- lots of things with animals. Science centers, theme parks, nature walks, you get the idea. And I have some pictures here to show you.

Just a little girl that is on a playground piece of equipment. She has her feet in the round circle part, so she got a chance to feel that before she climbed in there. A young child in a garden. And then we see a young boy with an adult, and he's looking at a lizard at a science center. So lots of hands-on activities that we sometimes just need to help families recognize are great learning opportunities.

Let's move on to slide 9 and talk a little bit about shopping. In the picture, we see a young girl at the checkout line. The cashier is handing her the change from her purchase.

Children can braille their own shopping list, and you can have them number the items, even, or specifically get three tomatoes or two cucumbers. Have the child be able to count the number of items in the cart or the bag. So whether we're at the store or when we get home, how many items are in there?

Money responsibilities are huge. Our children need to learn how to use money, even in the day of plastic. And talking about the size and weights of items, so which two things are heavier than the other one, those types of things.

Slide 10 talks about concepts, concepts, and more concepts. And we see a young lady. She's on a playground. And she's getting ready to step on a black ramp. And there's blue railings. So she's going to be going up on an incline. What a fun word to use. This is a path that she's following to get to the swings that she wants to go to. So we can talk about what's in front of her, what's behind her with her.

Thinking about new and familiar areas-- what shapes do you come across? Is this a circle? Is this a square? Time concepts-- when are we doing things? Morning, afternoon, evening? And then also talking about temperature-- that's part of math, too. So what are you going to wear outside because it's cold today or hot today?

I love numbers in the real world. And the picture we have here on slide 11 of a young girl in an elevator getting ready to press the button because she's read the braille. But there's lots of numbers in our world. Children need to know their age and their birthday. Phone numbers just can't be in the cell phone.

Their height, their weight, showing them scales and how we measure their height and their weight, that's a great thing to do. Numbers in their address. Talking about time-- how long does something last for? What is five minutes versus half an hour? Prices when you're in the store-- pointing out the prices of different items and relating that to money. And those elevator buttons. You can't miss those.

Slide 12 talks about sharing books as a family. And we have a wonderful picture here of a dad reading the book, *The Littlest Pumpkin*. This is an APH *On the Road to Literacy* book. So he's sharing it with his preschool child, little boy.

And you'll see, next to them, is the real pumpkin. And this family, every year, goes to the pumpkin patch. So their son gets the opportunity to see lots of pumpkins-- different sizes, different weights. And then they come home, and after they share the story, they actually carve the pumpkin.

You could have circles or triangles for eyes this year. Which are you going to pick? And then you could have a circle or a square for a nose. Be creative in carving that pumpkin. Lots of different things to talk about when we're carving the pumpkin. Then we have to reach inside and get out all that gunk. OK. So our pumpkin's full of seeds. And then we take all the seeds out and it's empty.

Books that have rhyming phrases or repeated phrases can be really helpful for our students. Thinking about books that have number concepts or contain numbers or shapes. And then books like these APH *On the Road to Literacy* books are wonderful because they include tactile illustrations. If you have a book that doesn't have a tactile illustration as a TSVI, having you make a tactile illustration. Adding that to the book or teaching families how to do so is very valuable.

Here are some examples of other books from APH. *The Jellybean Jungle* is just another example from the *On the Road to Literacy* book. And we see, in the picture, a dad and his daughter counting the number of jellybeans in this book. This book goes from 1 to 10. The jellybeans are in rows, which gives us a nice opportunity for counting sequentially. There's print in braille.

Slide 14 shows another of our favorite books, *Goin' On a Bear Hunt*, retold by Suzette Wright. In this book, the child has to follow the path on each page to see where the bear is going. So this is a wonderful opportunity to learn about how lines are connected.

Slide 15 is a fun book called *Splish the Fish*. And this one is also by Suzette Wright, from APH. In the photo, we see a young girl who is exploring a page with her father. And she's looking for this specific fish that it talks about in the story.

Slide 16 talks about how fun it is to make cards and books and graphs yourself as a child. And in this particular picture, we have Valentine's Day coming up. And this child is taping a print Valentine's Day card that has a round donut on it onto a piece of real paper. And then he's going to braille the To and From on the card. This is a dual media student, so he can see that picture of the donut. And what made it really fun was he got to have a round donut to eat, too.

So model for families sending home cards and graphs and games that you and the child create at school, to give them ideas of things they can create at home. You might want to suggest to the families materials that they can have at home. And especially if they put those in a box or a location where the child knows where they are and can get to those.

And giving them ideas of ways they can incorporate math concepts into fun things they're doing. Making birthday invitations-- that's a really fun thing. You can have three balloons on the front of each birthday card that are made of different textures. So just helping them come up with ideas of ways that they can incorporate art, cardmaking and making books into activities they do.

Slide 17 talks about creating graphs. We see a student who has APH graph paper and the feel and peel stickers. And he's adding stickers to his graph. He has got four different columns going on there. With young children at this age, we want to stress counting, and modeling how to collect data and make a really simple graph like this.

Lots of things kids can graph. For example, my personal favorite, ice cream flavors. Mine would have chocolate off the chart. Other people might have just a few vanillas and strawberries in there. So what's find out what everybody at the birthday party likes when it comes to ice cream flavors.

The number of times grandma gave each child a hug during her visit might be a fun thing to graph, or how many steps it takes to go from the kitchen to each room in the house. So having the child engage in data collecting and then graphing it is the key here. Keep it simple, but keep it fun.

Slide 18 is our favorite website, Paths to Literacy. Tons of ideas on this website. For example, we just picked the article, "56 Tactile Math Ideas." This article is great, a wonderful resource to share with families.

Slide 19-- ideas for success in completing math homework. Now, we all know homework can be a challenging time for families. So you want to discuss with them the need for high expectation and communication. If we don't have a good workflow going between all the adults involved with that child and the family, then it makes it really hard to make sure what's happening at home happens in school, and vice versa.

It's great to make sure that families set up a workspace for that child, that everything's at that child's level, all the tools the child need are there. Helping the family understand braille comes by having a print copy of materials the child's going to use, so they can follow along and give support.

Sometimes, the child's going to need manipulatives to do an activity. You can send those home, or you can make suggestions. You don't have to send home all your shape pieces. You can suggest that they use coins, for example, for a counting activity.

And helping the family brainstorm with the child about times the child's going to need to advocate for themselves. So if they don't have what they need or they don't understand the directions, what are they going to do when they go to school tomorrow? How are they going to begin to self-advocate?

Slide 20 is an example. Carol, the TVI, has sent home a note to Tonya, Connor's grandmother, with information so that Connor can complete the same assignment as his classmates. That

assignment's in two parts. In the first part, he needs to trace numbers. And in the second part, he needs to count up the number of circles and write the numbers.

So to do the first part, Carol has made sure she's given Tonya the dot configurations for each of the numbers, so that Connor is brailleing. If he can't remember how to braille the number 15, Tonya has that information. She's also shown Tonya what the second part of the assignment is going to look like on the braille when Connor counts up the circles on the cards that she's prepared.

It's not hard to help a family understand an assignment and give them the tools they need so they can help the child succeed at home with homework.

Slide 21 is our last slide. And it talks about how your attitude influences your students' attitude. You want to encourage your student to do their best each and every day, to learn to advocate for themselves. You are not always going to be there. So how can you support them so they can be as independent as possible and express their needs positively? And helping them feel positive about themselves-- what do they do well? Helping them see that.

We have a really sweet picture here of a girl who has dowels with marshmallows she's made into shapes. And she has a big smile on her face. And she says, "Not only can I do it, it's fun." And we want you and your students to have a fun experience with math at this age level. And we know you will. Thank you so much.