Transcript for the Video:

Investigating…Balls

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Amie Theriault, Toddler Teacher: The balls have been one of the best investigations that I've ever done with the toddlers because it's so hands on; it's so sensory oriented. There was just room for all the developmental domains.

Niloufar Rezai, Director: An investigation is an in-depth study of a topic of interest to children, teachers, and/or families. Children construct meaning out of various topics through teacher facilitation and guidance. Teachers brought with them different ideas that they thought their children would be interested in exploring based on different things that they've heard in their classrooms.

Patricia Gardner: Somebody brought up balls, and I thought it was a good idea. The children know about balls. They're aware of balls; it's in their daily environment.

Child 1: You can bounce it and roll it.
Child 2: And you can throw it. But just not in the house. Outside.

Patricia Gardner: And this allowed them to look just a little bit closer at something that's an everyday object in their environment.

Amie Theriault: I have to admit I was a bit fearful. I said, ok, how can we safely bring balls into the classroom and know that they're not just going to be thrown constantly.

Amy Tyler: At the beginning we were nervous about balls because we really thought, could we do this long term? We spent a lot of time webbing.

Niloufar Rezai: Once we create the web together, each classroom team goes back and decides what they want to focus on with their classroom.

Amie Theriault: We did a whole key experience around creating a bowling alley. I just asked them very casually, "What do you think we could use for pins?" I had a child who said, "Let's use books," and another one who said cars, and another one who said trees. And I actually have little tree blocks, so we tested them all out and they were really excited to set it all up and decide on their own: one child would set up the pins, the other would bowl, and keeping score and what not.

Niloufar Rezai: We knew that with balls, there were going to be a lot of opportunities for science and physics.

Amy Tyler: Children were able to plan and build their own ramps, and then they were able to compare how far certain balls went.

Child 1: See, it rolled farther!
Amy: Did it hit the wall?
Child 1: Yeah; they hit it.
Amy: Did the marbles hit the wall too?
Child 2: No.

Amy Tyler: We did a lot with changing the height of ramps and seeing if that affects the speed of their balls and if the shape of the ball affects the speed.

Amy: Do you think the marbles roll faster or the golf balls?

Patricia Gardner: One part about the ball investigation that I liked is that it was active. We coordinated a visit from the Eastern Connecticut State University Women's Basketball Team. The children were able to ask them questions, and they did a demonstration, and they talked about bouncing and passing. And the thing that the children were most excited about was dribbling but also how high these team members were able to throw the ball up. Then we thought, alright, well this is good, we have an idea of some different things and different kinds of games that they could play with balls. Let's see if they can invent their own games.

Child: In my game you, you, you gotta, you gotta trya roll it in, but, but, but, but you, but, but you gotta watch out because there's a booby trap.

Patricia Gardner: And they were able to explain all the details of their game.

Child: Only five people can play.
Patty: Only five people can play. Okay.

Patricia Gardner: It was interesting because they understand I think more now: materials, you need materials to make a game. You have to have rules.

Patty: What are the rules? What do you have to try to do with the ball?
Child: You have to do this.
Patty: What happens if the ball pops out of there?
Child: You have to put, you have to put it back in the pot again.
Patty: You have to put it back in?

Amie Theriault, Toddler Teacher: We did a lot of shared writing. We did a bounce chart that they filled in, so we did some experimenting and hypothesizing: Do you think that this type of ball will bounce? Why or why not?

Patricia Gardner: We found a lot of fiction books. There's a book called "Hit the Ball, Doc," by Jez Alborough and there's onomatopoeia all throughout the whole book, like "crash" and "whoosh."

Amy Tyler: We talked about what solid was and what hollow was, and every week we brought a new ball to circle and we predicted what's going to be inside this ball. We were able to cut it right there, and then we were able to compare the outside versus the inside, if the textures were the same, if they were different, and what was inside that ball.

Niloufar Rezai: There was a lot of opportunities for children to experience art through balls.

Amie Theriault: We did a painting activity; it was called reverse painting because we actually put the paint on the table itself. We had them each choose a ball, and we purposefully made all the balls very different.

> **Amie**: Look around at all the balls. Do they look and feel the same or different?

Amie Theriault: We had them push the balls through the paint to make tracks, and we talked about the ways how different balls created different tracks.

> **Amie:** Does yours have spikes on it like Jaylen's?
> **Child**: No.
> **Amie**: Or is yours smooth?
> **Child:** Mine is smooth.
> **Amie**: Smooth. I wonder if that's why they made different prints?

Amie Theriault: We gave them an opportunity to choose a different ball on another day and compare what would be the same if we used a smooth ball next time. So they were able to see the similarities and differences between the tracks.

> **Teacher**: Does your picture look the same as that picture we did last week? That ball! It looks like that ball, huh?

Patricia Gardner: We took a beach ball, small beach ball, and we took yarn and we dipped it in liquid starch and wrapped it around the ball. Then we waited a couple days and we let the air out of the beach ball and then it was just the shape, but there was nothing on the inside, and we have it hanging in the room.

Amy Tyler: We did making balls towards the end of the investigation because they had all this prior knowledge of how they wanted their ball to look. We had various materials for the children to choose from: aluminum foil, rubber bands, play dough, tissue paper. They were able to test their balls and compare them.

> **Child:** Look, it's just standing there.
> **Amy:** You're right! Why does that happen?
> **Child:** It's not round like mine or something.
> **Amy**: Right, it wasn't round. What is it?

Amy Tyler: And then a lot of children realized that after they were able to look at their ball and realize it wasn't like the other balls—it wasn't a perfect sphere like the other balls.

> **Child:** It's going to slide and roll.
> **Amy:** It's going to slide. You think it's going to slide. Why do you think it might slide?

Amy Tyler: But they knew right away, just by looking at it, oh it's not going to roll. To be able to see them know right away because of the shape it was that it wasn't going to roll, was a big step from where we started and we assumed everything was going to roll.

Amy: What do you think?
Child: That one don't roll.
Amy: This one doesn't roll. Okay, let's look. Let's look at Jeremiah's. I just wanted to do that for ours. We're going to leave these here.
Child: Look it.
Amy: What do you think? What happens?
Child: It just stands there.
Amy: It just stands there! Why does it just stand there?

Amy Tyler: I think they have learned so much from the properties of balls and really how they move and that the texture of that ball is going to affect the way that it moves.

Patricia Gardner: It surprised me that we could investigate balls as long as we did. We didn't have a problem because there was always something else; there was always another direction that we could go into.

Amie Theriault: There were ways to incorporate literacy and gross motor and fine motor and bring it into blocks and math and science. I mean, it literally covered every developmental domain.

Niloufar Rezai: We have all learned from this investigation that a topic as simple as a ball can have so many possibilities for exploration. We spent a good three months on this topic of investigation. You can really spend a long time doing an in-depth study on a topic and keep children excited about learning.

Child: Mine went almost to the block area!
Amy: The cylinder.

Amy Tyler: I learned not to be scared of something at first; just to sit and plan and talk to your teammates and you really just get this conversation going and get these ideas moving. And really to go with the children's interest.

Amie Theriault: Honestly, I've learned a lot about my kids. There were so many open-ended questions that we could ask that they could discover the answers to on their own.

Patricia Gardner: I think when they look at balls now, they look at details, whereas before it was…a ball. But now they might think about: It's a ball, and ooh, it's got a different texture, and ooh, I wonder what it's made of; I wonder how high it can bounce; I wonder how far it can roll. As they grow older, they might learn to look at things in their environment and ask those questions about all kinds of things.