

Ezra explores height, balance, measurement, and number

28 February

Ezra wanted to be really tall today. He was walking around with the sawhorse held up high over his head. Later I noticed him under the tree house positioning the sawhorse in different ways, trying to reach the bottom ledge.

He tried standing on both the bottom and top of the sawhorse.



The sawhorse is upside down with its legs standing up.



Ezra works out how to reach the ledge more easily.

Then with intense concentration he walked around the playground. "I'm going to reach that tree." But he placed the sawhorse on the concrete path.

I asked, "What would happen if you fell off?" He looked around without answering and moved onto the grass until he decided on a spot. He reached up and could just reach the leaves. Then he said, "You get some string and measure me." I found some

lovely red ribbon and together we spent some time measuring and cutting lengths while he stood either on the grass or on the sawhorse.



An audience came to watch while we compared lengths. Ezra decided he wanted the string tied to the branch so he could "swing".

"You pull out the little stool so I can swing," he insisted.

We did a countdown. "3 ... 2 ... 1 ...Go!!" And he jumped.

"Who wants to jump with me?" he asked the audience.

Several children wanted to join in and Ezra said, "This is going to be fun, eh?" The children agreed.

I left them to "swing" and they spent some time negotiating the process and how to hold the ribbon.

Short-term review

Ezra showed amazing problem-solving skills and a real interest in measuring. This solitary activity ended up being quite a social experience. Ezra is developing ways to include others in his play. Ezra needs more opportunities to expand his interest in measuring and maths concepts that also include his peers.

Voice from home

When this story was shared with Ezra's mum and her partner, Ezra's mum said that she had measured him against the wall a very long time ago. She didn't use string! Gareth (her partner) commented that they often tell Ezra if he eats up all his food he will grow big and strong. Ezra also gets up on a chair to see if he is as tall as Gareth.

Child's voice

When Sandra shares the story and photos with Ezra, Ezra responds, "I am trying to reach that branch, eh?"

"I'm measuring myself with a piece of string."

"I was holding the piece of string and I was **SLIDING** down, eh?"

"Hey, that's me," he said pointing at his name. "There's me, 'E' 'Z' 'R' 'A'," he said, pointing to each letter.

11 March – several days later

Ezra wanted to balance on the building bricks. He tried standing on just three but they kept falling. He then spent some time standing up all the bricks in a group. Finally he stood on them, arms outstretched and said, "I'm balancing."

Sandra: "Wow, look at you! How many bricks did you have before when you kept falling down?"

Ezra thought for a while and held up four fingers.

Sandra: "Was that enough to balance on?"

Ezra shook his head.

Sandra: "So how many bricks did you need to balance?"

Ezra got down and counted, touching each brick as he said a number.



"I'm balancing!"

Short-term review

Ezra problem-solved this task all on his own. He realised more bricks were needed to support his weight and the outcome was successful.

16 March

Several days later when playing outside, Ezra found a long tube. He ran over to me and asked, "Am I taller than this?"

"How might you work that out, Ezra?" I questioned.

Ezra stopped for a moment. He stood up straight against the wall and held the tube against himself. "You can look and tell me," he said.

"Good idea," I said. "No, it is just slightly taller than you."



"Hmm," said Ezra, "what about Eisak? Is she taller?"

Ezra held the tube against Eisak as he had done against himself and he compared.

"Yes, Eisak is taller!" he declared.



What's happening here?

This is a series of stories about Ezra as he experiments with ways to make himself taller, to balance, and to measure height.

What aspects of noticing, recognising, and responding to mathematics learning does this assessment exemplify?

The continuity of Ezra's explorations is documented as he uses a number of tools (sawhorse, ribbon, bricks, cardboard tube) to change and measure height. The teacher observes carefully, adding suggestions or resources at appropriate times. A voice from home is included in the documentation, connecting Ezra's measuring experiences at home with those at the centre. The teacher revisits the documentation with Ezra, and he describes his experiences by reading the photographs. He also recognises the letters of his name.

What does this assessment tell us about mathematics learning (using a *Te Whāriki* lens)?

Connections with home are included here as the family make links with the curriculum at the centre. When the assessment is shared with Ezra's family, they make a contribution to the record of continuity over time and place. Ezra uses a successful strategy for including others in the play: inviting them to jump with him.

This exemplar is an example of a mathematical pathway that is linked to the *Te Whāriki* principle of reciprocal and responsive relationships with people, places, and things. The Communication/ Mana Reo strand emphasises mathematics learning through "activities that have meaning and purpose for children".²⁰ The mathematics in this assessment is sited in events that absorb Ezra and hold meaning for him.

How does this assessment exemplify developing competence with mathematics?

This documented assessment records Ezra's developing understanding of the concepts of height, measuring height, and number. Ezra experiments with tools that help him to reach a greater height and then with artefacts that help him to measure height. Throughout this process, he demonstrates the activity of "playing" when other children join in the jumping game he has instigated.

Ezra measures using string and a cardboard tube, and he compares his results of different trials (measuring himself and then Eisak against the tube). He uses vocabulary of comparison. "Am I taller than this?" The teacher includes counting in Ezra's activities by leading him in a backwards countdown of three for jumping and then by encouraging him to count the number of bricks that he needs to create a firm foundation for standing and balancing.