



Magic Transformation of Mung Beans

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This mung bean sprouting activity continues the previous exploration. While waiting for the mung beans to sprout earlier, the children took on the task of caring for the mung beans, checking them frequently for moisture, making sure they were growing in the shade and recording how the beans changed. As a guide, I used these opportunities to further help them explore the processes of life in nature.



We gathered in the table area on Wednesday, and I brought sprouting mung beans and said to the children, “we have planted mung beans for a week, I know we have a check list about watering the beans. and we also recorded how the beans changed everyday.”

Jack excitedly said, “Have they sprouted? Show me!”

Torvi covered his eyes with his hand and said in feigned surprise, “I did check on Monday; they turned into very long bean sprouts now, I drew their shapes.”

Dharan added, “I have also checked if they have enough water, and now finally I see them sprouting!”



I showed the mung beans sprouting, and the children came over to look at them.

I asked, “What does everyone think these bean sprouts look like?”

Bryan said, “They have tiny roots growing out, and they look so tender!”

Corb pointed to a bean sprout, “This root is very white and kind of curly.”

Finley observed, “They seem to be growing out of the split in the bean.”

Torvi picked up a bean sprout and observed, “It looks like a tadpole, can you take a photo and compare it to the tadpole?”



I encouraged the children to touch the sprouting mung beans with their hands to experience the new texture of the bean sprouts.

I asked, “What do you think is different about these bean sprouts than the mung beans we first touched?”

Alyson said, “Now they’re softer. Can I compare to the beans?”

Alyson measured their sizes, and drew a shape of sprout.

Jack: “They don’t feel as hard as they did before.”

Finley added, “They’re slippery, and the buds seem to break easily when you touch them.”

Revan: “Still cool to the touch.”





I recognized the children's observations and led further, "We just recorded changes of mung beans, and Alyson already measured sprout's size. Do you remember the last time you guessed what part of the mung bean would grow first?"

Corb recalled, "The roots grow first! We guessed right before!"

I continued to explain to them, "Yes, the bean sprouts grow roots first, and they are slowly absorbing water from the mung beans to start growing."

To further the children's understanding of how mung beans grow, I asked a new question, "Now that the beans have sprouted, will they continue to grow if we continue to keep them moist? Or do you think something else will change?"

Torvi remembered the last time I mentioned that bean sprouts are for eating, so she asked, "I remember it can be used for

Finley raised her hand and said, "Can we eat it now?" Big enough for us to eat."

Annabelle added, "Not yet, I guess its roots will get longer, and then maybe more leaves will come out."

Revan asked curiously, "Will it grow a lot of roots like a tree?"

Bryan nodded. "I think they'll soften slowly and then maybe grow more and longer roots so that we can eat."





The children imagined many plausible hypotheses; they also used beans as seeds and hypothesized the process of tree growth to bean sprouts. I related the children's observations to their lives, wanting them to realize that plants are not only part of nature but can also be part of our food.

I asked the children, "Guess how we can eat these bean sprouts?"

Annabelle asked, "Can we just eat them?"

I replied, "Yes, we can eat them straight up! Bean sprouts are very nutritious and can also be eaten in salads, soups, or stir-fries. Just wait two more days, and it will soon be completely grown, and then we can try them and see how they taste."



Since I wasn't sure if the children were allergic to bean sprouts, I decided to let them take them home when they were ripe and their parents could decide if they wanted to taste them. Until then I had the children pick up some bean sprouts and break the sprouts off to feel the feel as well as smell the sprouts.

Jack said, "It's kind of crunchy."

Revan nodded in agreement, "Yes, crisp."

I replied to them, "The texture of the bean sprouts is crunchy when eaten straight."

Corb said, "I think the roots have a lot of moisture, so crunchy."

Bryan frowned. "It's kind of weird; it smells kind of like water."

Dharan added, "I think it's okay; it smells kind of light."





At the end, I asked the children, “What did you all think was the most interesting part of the process from planting the mung beans until now when the sprouts are growing?”

Torvi said, “I think seeing the sprouts grow was the most fun.”

Finley adds, “I think we can still let them continue to grow and see if they get taller.”

Revan said, “It’s fun to eat them!”

Alyson said, “I think it’s funny how bean sprouts grow little tails.”

I summarized, “Everyone had great ideas. Plants are nature’s gift to us; we take care of them, and they can give back to us. Whether it’s by watching them grow or by tasting them, we get something out of it.”



On Friday I noticed that the sprouts didn't seem to be getting any bigger and that they would most likely wilt over the weekend, so I decided to go ahead and give the sprouts to the children so they could take them home to eat and show their parents how well they had taken care of them.

When I gave the sprouts to Dharan and Olive, they couldn't wait to put them in their mouths and saved some for their parents to show them. Their behavior was totally expected, as they are always good eaters.

I asked Dharan and Olive, "Do you like the taste?"

They both nodded. "I love it!"

I said, "Remember when we broke the bean sprouts? It has a crisp texture. So it tasted the way you thought it would?"

Dhahran said, "It tasted crisp too, and I wanted some more."

Olive said, "Yes, it is crisp and crunchy to bite."

I said, "I'm glad you guys liked the mung bean sprouts. Now you have learned how to sprout the mung bean and make it the way it is now, so you can go home and make more mung bean sprouts for more people to taste."

Olive and Dharan said, "Yes! I want to grow more bean sprouts!"



As I was giving the bean sprouts to the children, some of the children who were not in the program (from the dessert room) were also interested, so I showed them how to grow bean sprouts.

The children from the dessert room said, “This is so cool!”

“I’ve never tasted this food before.”

“I want to go home and try it with my mom!”

“It’s so cute-looking.”

“The bean sprouts have little tails.”

“Will you make this next time? Can I join in?”

Since three of the children were away for the day and I had to give these bean sprouts to the children otherwise the sprouts would have wilted.

When I saw that so many children who weren’t involved in this program were interested, so I gave them the extra bean sprouts. I am glad that the children enjoyed the project. In the process, I demonstrated that my pedagogy allowed more children to learn about mung bean sprouts, and they were able to fully participate in the process of growing mung bean sprouts, and they developed in many aspects.



What it Means

— Promoting children's multifaceted development through exploration and interaction

- **Development of sensory experiences and careful observation skills**

Children used different senses throughout the process to observe and experience changes in the mung beans. From touching the hard mung beans at the beginning to breaking the soft bean sprouts later, children perceived the changes in mung bean germination through touch, sight, and smell. This sensory experience not only enhanced their curiosity but also helped them observe the world around them in detail. Some children even couldn't wait to taste the bean sprouts. Many children made different descriptions of their feelings about the changes in the texture of the beans, showing that they were already building their knowledge of objects through sensory experiences.





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- **Development of Scientific Reasoning and Logical Thinking**

During the sprouting of mung beans, children actively participated in discussions and asked questions by observing the growth of plants. They imagined the changes that would happen next by speculating and reasoning. Children hypothesized about the growth patterns of bean sprouts and discussed possible future changes to bean sprouts. Through these hypotheses, they demonstrated initial scientific thinking skills and were able to apply what they knew (e.g., how trees grow) to their understanding of bean sprouts.






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- **Development of Language Expression and Social Interaction**

During the activity, the children not only shared their observations but also interacted with each other through my open-ended questions and discussions. They were able to express their understanding of the growing process of green beans in vivid language. These exchanges helped them to practice their language skills and learn how to use appropriate vocabulary to describe their observations and thinking. In addition, whether they were observing the bean sprouts together, discussing their growth, or taking care of them, the children demonstrated a positive spirit of cooperation. The children enhanced their social skills by listening and responding to each other during the interactions.





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- **Development of self-management and responsibility**

Children took on the task of caring for the mung beans as they waited for them to sprout. By checking and recording the humidity of the mung beans from time to time and ensuring that they were growing in the right environment, the children developed self-management skills and a sense of responsibility. They began to understand that plant growth requires constant care and attention, and this sense of responsibility helped them become more independent and organized in their daily lives.





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- **Enhanced understanding of nature and food**

Through my guidance, the children not only understood the process by which a mung bean changes from a seed to an edible bean sprout but also that the plant can change from one food to another edible plant. We measured beans' sprouts, and recorded beans' growing changes, children begin to realize how life processes in nature connect to their lives. This connection to nature and food helps to enhance their initial understanding of ecosystems and nutrition and fosters a sense of gratitude for natural resources.





What it Means

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- **Development of Curiosity and Spirit of Inquiry**

The whole activity stimulated the children's curiosity and spirit of inquiry. They showed great interest in waiting for the mung beans to sprout and continued to deepen their understanding of the process of growing mung beans through questions and exploration. Even some of the children who did not participate in the program were interested in the description of the program and were looking forward to the fact that I could do it again or complete it with their parents. Their keen interest in natural phenomena was demonstrated through the constant questions that were asked between me and the children and from child to child. This curiosity will propel them to continue to explore new knowledge in their future studies.

