

Loose Parts and Tinkering = Learning

Canadian Child Care Federation

As I have been watching children engage with many loose parts, I have been intrigued by how when the loose art is new to them that they engage in a tinkering process. This makes sense to me because children satisfy their curiosity in a number of ways depending on the environment and the resources within the environment. Think about how often children engage in the process of questioning. Now think about how they tinker with something new before they fully engage the item in their play.

Tinkering can be described as an active engagement and manipulation with materials or experiences that children do to figure out ideas and answers to questions.

During outdoor play, curious children may tinker with materials and ideas when they first begin to determine how to make a den or a shelter. Where is the ideal place to build a shelter? Is it in open space or near a tree? How might they get the poles to stand up? How might they get the branches to stay on the shelter? Tinkering with ideas supports children exploring, experimenting, engaging with materials in ways that offer new options, and ultimately learning through trial and error. When children are given the time, place, materials that they can combine, assemble, take apart, create with, and have adult endorsement to tinker, they become immersed in the experimentation and discovery, which increases their desire to expand additional explorations:

<u>Learning Feature</u>	What Tinkering in Outdoor Play Looks Like <u>Children</u>	<u>Environment</u>
	<ul style="list-style-type: none"> Children become interested in spaces, places or materials. They put things together, move items, take things apart, reflect upon experience and start over again. They invest large amounts of time with the materials and their ideas. 	<ul style="list-style-type: none"> Variety of materials, including recyclables, loose parts, familiar and unfamiliar materials that trigger curiosity and inquiry.
Engagement	<ul style="list-style-type: none"> Children combine different types of materials in their exploration. Children observe others with the same material, and then try their ideas. Children ask questions of their peers or adults about the materials they are using. 	<ul style="list-style-type: none"> Places and spaces for tinkering to occur. Adults that use open-ended questions to expand children's thinking.
Social partnerships	<ul style="list-style-type: none"> Children seek support and engage with others to gain new ideas needed to support their tinkering of their work and to develop new ideas. 	<ul style="list-style-type: none"> Adults offering children role modeling and opportunities for discussions, debates, and expansion of flexible thinking.

Resourcefulness	<ul style="list-style-type: none"> ▪ Children request help from others to help solve a problem. ▪ Children invite others to work with them on a particular idea. ▪ Children set individual goals and ideas. ▪ Children create a purposeful plan in examining their idea, material or goal. ▪ Children take risks with their ideas and in exploring new materials or ways of combining previous knowledge with new ideas and intentions. ▪ Children figure out when they are stuck and what resources they can draw upon to move their thinking in a new direction. ▪ Children develop their own questions and construct new ideas. 	<ul style="list-style-type: none"> ▪ Peers supporting peers encouraged by adults. ▪ Documentation through pictures or stories that capture the experiences and sequence of exploration. ▪ Additions of new materials or language that will trigger further curiosity and tinkering. ▪ Adults that observe and listen to the children and offer input when required. ▪ Multiple pathways are encouraged.
Belonging and Well-being	<ul style="list-style-type: none"> ▪ Children feel a sense of belonging as they contribute to the sharing of the tinkering experience ▪ Children feel successful in the open-endedness of the experience and their opportunities for expression. ▪ Children and their families can contribute to the collections of materials for tinkering encouraging a sense of belonging. 	<ul style="list-style-type: none"> ▪ Materials are included to support a broad range of development and skill. ▪ Through scaffolding, adults and peers offer opportunities for children to be challenged while continuing to learn and develop.
Creativity and Expression	<ul style="list-style-type: none"> ▪ Children's opportunity for creativity supports their artistic expression. ▪ Children express themselves in multiple languages. 	<ul style="list-style-type: none"> ▪ Different ways are offered to create inventions, contraptions, machines and art.
Actualizing discoveries	<ul style="list-style-type: none"> ▪ Children share how to do something with others. ▪ Children apply their knowledge in new situations. 	<ul style="list-style-type: none"> ▪ Documentation is continuous and children's learning celebrated.

Table 1 Tinkering and Outdoor Play

Children require the space, time and unique loose parts to be available to them. Different type of loose parts advances children's tinkering, questioning, intuitiveness, and innovation. These elements of activity increase children's depth of thinking and problem-solving abilities. What neat loose parts can you place in the environment to be able to see children tinkering in outdoor play?

The Power of Rocks in Children's Outdoor Place of Learning

Earlier this month as I walked through my neighborhood, I became intrigued with two children who had stopped their bike ride to explore a pile of rocks that were adjacent to the bike path. As soon as the children began examining the rocks, they engaged in dialogue such as "This is an amazing find – look at all the sparkles – look at the colors and look at the great big ones and the tiny ones."

As I observed the children engage in the rock play for more than 30 minutes, I was reminded of how such simple materials such as rocks add diversity to children's overall play, their language, thinking patterns and creativity. When children are given the freedom to explore rocks of all shapes and sizes, they acquire core principles of art, math, science, creativity, language, and engineering. The earlier learning professionals listen to the children, the more opportunity they have to incorporate children's quest for knowledge into the environment and support triggering their curiosity within the context of an inquiry-based place of learning.

There are many definitions that describe inquiry-based learning. For me, I view inquiry-based learning environments as those outdoor play environments that provide children with time, materials, and opportunities to exercise their sense of curiosity, and where their questions, ideas, observations and discoveries are at the core of their daily experiences. The National Science Foundation (2001) suggests that inquiry-based learning involves a process of exploring the natural or material world that triggers questions and making discoveries that contribute to a new level of understanding.

Through the process of inquiry, children seek information and insight about their questions and interests in things that matter to them in their world and experiences. They construct meaning and resolutions about their area of curiosity rather than being focused on the right answer. As outlined in Figure 1.1, part of inquiry-based practices is for educators to create environments that support children in generating and discovering new knowledge and to be responsive to children's needs. As part of this process, early learning professionals listen, observe, and understand when, why, and how to change the environment to trigger children's new options for creating questions, problem thinking and problem solving.

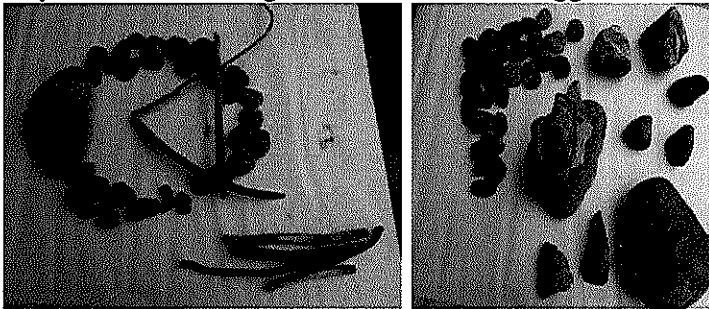


Figure 1.1 Role of educators in supporting inquiry-based learning in outdoor environments

Since observing the children on the bike path, I had the opportunity to place a number of rocks in an outdoor environment with children in a preschool program. During the process, I saw children's curiosity, learning ideas, patterns, and strategies unfold in very different ways from what I observed in their indoor environment. I learned so much from the children about rocks, art, math and their ways of thinking and knowing. As

children discovered the rocks in the play space, I casually asked a group what they knew about rocks. They told me about what a fossil is and why some rocks are smooth, while others are rough. As I expanded my questioning, they began to connect the relationships that exists among pebbles, sand and larger rocks. Over the days of exploring the rocks, I documented core questions that the children posed about rocks and documented some of their explorations and creations as they continued to visit and revisit their rock play.

As the children engaged in exploring the rocks, I had three key roles: Inviting children to explore the rocks, encouraging children to use the rocks in new ways, and having discussions with an individual child or group of children.

Invite children to explore rocks

- Set up rocks in various places in the outdoor environment.
- Place resources near the rocks such as books, hammers, safety glasses, buckets and water.
- Ask questions that support children in investigating the rocks such as “Do you think that rocks will float or sink in the water?” Why do you think that?

Encourage children to use the rocks in new ways

- Provide a variety of rocks and displays that use rocks in vertical and horizontal positions.
- Place rocks in unusual places outdoors with notes nearby.
- Add resources such as sand, sticks, sand, and tree cookies near the rocks.
- Discuss with children how they would like to use the rocks and what they anticipate they will require.

Engage in discussions with children

- Encourage children to take photos of their rock explorations and tell their story about the experience that can be documented for later reflection.
- Use new words with children such as symmetry, vertical, collapse, extend, and asymmetrical.
- Ask children about the processes they used with rocks for various experiences.

Conclusion

When early learning professionals have a genuine interest in children’s outdoor play, they will design an inquiry-based opportunity that will support young children in building on their prior experiences while triggering their curiosity to extend their options for new exploration and discovery. As outlined, rocks, although simplistic at first look, offer children a venue to expand upon skills that support their academic learning for life.