Creating Challenges with Loose Parts: Developing Critical Thinking & Persistence

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What are ***loose parts?*** Where do we find them?

They are materials with no specific set of directions that can be used alone or combined with other materials.

Loose parts can be natural or synthetic. Some examples of loose parts for use in play:

- sticks & leaves
- feathers
- pinecones
- seeds & acorns
- stones & shells
- tubes
- ribbons & bows
- washers & nuts
- buttons & beads
- caps & containers
- "gems"
- & …

Why have ***loose parts*** available to children?

There are many reasons why play spaces should include a multitude of loose parts, including:

- Loose parts can be used any way children choose.
- Loose parts can be adapted and manipulated in many ways.
- Loose parts encourage creativity and imagination.
- Loose parts develop more skill and competence than most modern plastic toys
- Loose parts can be used in many different ways
- Loose parts can be used in combination with other materials to support imagination
- Loose parts encourage open-ended learning.
- Children choose loose parts over fancy toys.

What ***challenges*** can we offer to children with ***loose parts?***

- *How tall a tower can you make?*
- *Can you build a bridge?*
- *What can you make using 10 pieces?*
- *Can you make a pattern? Can someone figure it out?*
- *How many ways can you sort these?*
- *Can you arrange these to create letters or other shapes?*
- Or…?

Why offer ***challenges*** to children with ***loose parts?***

When children are given a challenge with loose parts:

- They have an opportunity to develop **persistence** in searching for and finding solutions.
- They use **critical thinking** skills.
- They experience **multiple perspectives** surrounding the same challenge.
- They **communicate** their ideas and understanding in a variety of ways.

Resources for finding out more about loose parts

redleafpress.org - books by L. Daly & M. Beloglovsky – *Loose Parts: Inspiring Play in Young Children* (2015) & *Loose Parts 2: Inspiring Play in Infants & Toddlers* (2016) and by U. Kolbe – *Children's Imagination: Creativity Under Our Noses* (2014)

communityplaythings.com - article "learning in loose parts"

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earlymath.erikson.edu

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Big Ideas of Sets

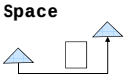
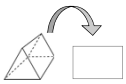
Topic	Big Ideas	Examples
Sets & Sorting 	•Attributes can be used to sort collections into sets. •The same collection can be sorted in different ways. •Sets can be compared and ordered.	•Color, size, shape, type of object, etc. •Red bears vs. blue bears; big bears vs. little bears •*There are more red bears than blue bears.* (compare); *small bears, medium bears, large bears* (order)

Big Ideas of Pattern

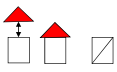
Topic	Big Ideas	Examples
Pattern & Regularity 	• Patterns are sequences (repeating or growing) governed by a rule; they exist both in the world and in mathematics. • Identifying the rule of a pattern brings predictability and allows us to make generalizations. • The same pattern can be found in many different forms.	• Dots on a ladybug; posts of a fence; adding 1 to any number gives you the next number • *After lunch comes recess; If we keep counting people's feet, it will always be 2 more.* • Big block, little block; big block, little block; big block, little block … OR snap, clap; snap, clap; snap, clap…

Playing around with loose parts and trying to meet challenges with loose parts can help children to develop their thinking about these Big Ideas of Early Mathematics!

Big Ideas of Spatial Relationships

Topic	Big Ideas	Examples
Describing Space 	●Relationships between objects and places can be described with mathematical precision.	• Maps and models represent the 3-dimensional world. • *Joshua is in front of Ana, and he is behind Tameika.*
Visualizing Space 	●Our own experiences of space and two-dimensional representations of space reflect a specific point of view. ●Spatial relationships can be visualized and manipulated mentally.	• A party hat looks triangular from the side, but when you lay it down, it can look like a circle. • An expert jigsaw-puzzle solver can picture a missing piece and does not rely on trial and error.

Big Ideas of Shape

Topic	Big Ideas	Examples
Defining & Analyzing Shapes 	●Shapes can be defined and classified by their attributes. ●The flat faces of solid (three-dimensional) shapes are two-dimensional shapes. ●Shapes can be combined and separated (composed and decomposed) to make new shapes.	•A rectangle must have two sets of parallel sides of equal length and four 90º angles; thus, a square is a special type of rectangle. •A "triangle block" actually has only two sides that are triangles, while three sides are rectangles. •Any rectangle can be divided into 2 triangles.