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How to Make the Most of Loose Parts Play in Preschool

From counting and classifying to literacy lessons, teacher-tested learning opportunities that encourage autonomy and creativity.

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As Nicole Dravillas Fravel's 3-to-5-year-old students work together to build an elaborate rock collection and a library made of moss, sticks, and shells, they chat together, negotiate roles, and create intricately detailed scenarios.

They're also learning foundational math—what looks like everyday, messy child's play is in fact an important stepping stone toward kindergarten preparedness. "When children are dividing sticks amongst their friends, they're laying the foundation for math skills and concepts that they'll use later, even if they can't write an equation yet," says Dravillas Fravel, the founder and director of Wildwood Nature School in Oregon. "Young children can use a math lens to understand the nature around them, providing a real-world application for concepts that might otherwise be abstract." When they're counting and dividing shells equally among themselves, for example, they're applying "hands-on numeracy skills to create a fair outcome," she notes.

Unlike play with traditional classroom toys like puzzles that have clearly defined outcomes, or Montessori materials like beverage pitchers designed to engage children in specific real-world skills, letting kids tinker with seemingly random objects—known as loose parts play—is open-ended. Kids are free to infuse their imagination into seemingly simple castoffs: A pile of old corks might become ingredients for soup, egg cartons might become race cars or monster traps. This open-endedness invites young learners to discover possibilities for everyday items that are often freely available from nature, recycling bins, and junk drawer donations, in the process building problem-solving skills and spatial reasoning.

more Hummingbird, less helicopter

For young students to reap the benefits of loose parts play, they need a degree of elbow room and autonomy, says Kristen Day, the retired founder of Butterfly Hill Nature Preschool in Minnesota. The teacher's role in this scenario is more hummingbird, she

explains, than helicopter, an instructional mindset that tends to result in deeper learning, research shows. “A hummingbird teacher floats in quietly when needed and floats out just as quickly, being sure not to interrupt or change a child’s play,” Day writes. “The hummingbird teacher notices when voices become elevated and flutters in closer to see if they are needed. If so, they gently help with problem-solving and then flutter out.” When students wonder or ask questions, the hummingbird teacher provides answers and keeps a watchful eye on what kids are curious about so she can “find opportunities to extend this inquiry.” A hummingbird teacher is “sneaky and plans out the environment in ways that make children want to find out more or solve problems they happen upon,” Day explains.

When loose parts play is part of recess, it’s important to start with clear safety guidelines, says elementary school principal Dan Fisher, whose students get to play with an assortment of milk crates, tires, and pieces of wood. “All children are drawn to opportunities to take developmentally appropriate risks when they play,” Fisher says. After that, teachers’ main job is to step back, gently guide, and observe.

Tackling STEAM with sticks and stones

Out in the woods with her students, Dravillas Fravel uses a white bedsheet as a sorting mat to organize the objects her students find by size, color, or texture. This exploration lays the groundwork for foundational concepts like pattern recognition, measurement, and addition.

A forest in the Pacific Northwest isn’t a requirement for loose parts play, of course. A walk around school grounds or a nearby park can be a great opportunity to collect materials like sticks, feathers, and leaves. “Almost any small object you gather outside can be repurposed as a math manipulative,” says Dravillas Fravel, who encourages students to compare quantities, estimate amounts, or create sequences using their collected materials.

In the classroom, recycled yogurt cups, baskets, or old pie plates can function as sorting trays to further investigate the objects, simultaneously building math skills while showing students that learning is an ongoing experience that isn’t limited to any particular location or room.

“Nature provokes children into action to formulate their own ideas and self-guided investigations,” says Julie Hunter, lead teacher at the National Child Research Center, highlighting how playing with natural materials encourages preschoolers to observe, classify, and experiment—all key scientific thinking skills. As students examine natural

items they've collected, ask open-ended questions, Hunter suggests, such as, "What do you notice about these rocks?" Or, "How do you think this feather got here?"

Once the exploration is completed, consider creating a simple Nature Documentation Station, Hunter suggests, by having children hang their favorite nature discoveries on a tree branch with fishing line. Or designate a shelf at child level where students can place their outdoor treasures when they return to the classroom.

The magic of junk drawer storytelling

Junk drawer storytelling is a favorite activity at the Rise School of Houston, where preschool teachers pair books like *The Robot Book* with a bin of loose parts such as nuts and bolts, napkin rings, cardboard, and plastic tubing. After reading the book to the class, teachers invite students to play and create with the objects, guiding with prompts and open-ended questions to encourage basic understanding and curious connections.

In a variation of loose parts play, junk drawer storytelling turns everyday odds and ends into building blocks for creative storytelling, fostering children's understanding that objects can stand in as symbols for real things both in play and literacy. Preschool is a critical time for kids' emerging understanding of symbolic thinking, which is strongly correlated to language development.

Interactive storytelling opportunities with loose parts offer more entry points into stories for young learners, especially those whose communication skills are still emerging. Education researchers Heather Lavigne and Marisa Wolsky recommend encouraging preschoolers to use toys during dramatic play time and physically act out stories to clarify what characters and actions mean. By using junk drawer items in these scenes, children have the opportunity to experiment with symbolism through turning an old spoon into a magic wand or a pile of pipe cleaners into a bowl of spaghetti. "This is particularly helpful for dual-language learners and children with learning and thinking differences," they note.

Put loose parts play front and center

Documenting preschoolers' discoveries and making their learning visible throughout the school community is a great way to deepen the impact of loose parts play. "Show genuine enthusiasm for kids and their endless creativity. Document the amazing things that you see and share them in newsletters," recommends Fisher. "Have a bulletin board display in the lobby that shows all of the incredible things that your students do with

loose parts. Make the quality of students' play as important as test scores and other adult metrics of school health."

For students, those bulletin board displays can spark reflection and storytelling and convey the important message that their discoveries are valued and fascinating. For families and school faculty and staff, newsletter blurbs offer a glimpse into the transformative learning happening inside and outside of the classroom.