

# LOOSE

## Learning



**The power of open-ended loose parts play on children's learning and development.**

# Let them play

## **Children must play to thrive & learn**

Children have an unstoppable urge to explore, experiment, imagine and play and it is this primal impulse that intrinsically drive children's learning. Play is fundamental to the learning, healthy development and wellbeing of individuals and communities. It helps children to learn about the world around them and their place in it. When they are in 'play mode', they are engaged, curious and experimental. Play helps children to process what's happening in their world (*Lester, S. and Russell, W., 2010*).

When children play they are challenging themselves in the areas they are ready to develop, so the learning is perfectly timed for their brains to absorb effectively.

## **Play comes naturally**

For Play to be real Play it is a process that needs to be freely chosen, personally directed and intrinsically motivated. Children don't need to be taught to pick up a stick and make it a magic wand or a walking stick or anything else (*Real Play Coalition, 2018*).

## **Unlocking potential**

When playing, children can be anyone or anything. They are problem solvers and problem posers. Play unlocks the imagination, stimulates and quenches curiosity and reveals talents. For those who have experienced trauma, they can relax, be safe and have fun while developing crucial life skills for the 21st century (*World Economic Forum, 2018*).



***"You can make whatever you want.  
You can go deep, deep into your imagination."***

- Child, 8 yrs, Moonee Ponds West Primary School

## Play & cognitive development

Everything a child experiences shapes their development - how their brains connect and grow, how they respond to others and how they master physical tasks. Child development is a complex process involving physical, social-emotional and cognitive development. Children play in remarkably similar ways across the world. This tells us that play is developmentally crucial, a deep evolutionary drive that allows humans to adapt, learn and be in a complex, social system (Whitebread, D. Et al., 2017). Put simply play is learning.

Play in the early years of life has a profound and lasting influence on a child's health, wellbeing, and long-term development. Studies have shown early play experiences to shape a child's physical growth, capacity for learning, chances of finishing school, future employability, and even income (*The Case for Play, Playground Ideas, 2015, p.7*).

The amount of unstructured (real) play that children are now engaging in has decreased over time and is having an impact on child development and their future potential. For example, the ability to engage with others and believe in themselves, to communicate, focus, imagine, cooperate, negotiate and to develop their own identity and self-belief (Grey, 2013).

All of these skills are developed through play. Importantly, play is recognised as a 'universal' right by the United Nations Convention on the Rights of the Child (CRC). Article 31 of the CRC states that all children have the right to, 'rest, leisure, play, recreational activities, cultural life and the Arts'. (CRC, 2013)



# Loose Parts

Play is children's first method of engaging with the world, and other people. Studies on children's development consistently demonstrate that open-ended, self-directed play is vitally important for children's well-being and development and the open ended nature of loose parts perfectly pairs with the play instinct.

Loose parts are simply stimulating materials that children can use to learn how the world works and how they work in the world. Unlike 'normal' playgrounds or most toys, loose parts are open-ended meaning that the design of the object does not have an obvious use (like a puzzle for instance) they are usable and reusable in an infinite number of ways. It is precisely because of their open endedness that loose parts engage the highest forms of thinking and interaction such as creativity, problem solving, social skills and emotional intelligence  
*(Leichter Saxby, M., & Law, S., 2015).*

Loose parts very deliberately don't come with an implied "right way" to use them as this would defeat their purpose. Loose materials are directed only by a child's imagination and the playful exchanges between them and their parents /peers etc. Open ended materials are rich with seemingly endless possibilities for play, as children can decide to transform a cardboard box into a castle, a turtle's shell, and a lion's cage all in one afternoon.



Many organizations and communities struggle to provide safe and interesting places where children can play. For some, cost is prohibitive to building a playground. For other, loose parts can be messy and time consuming to manage and maintain a diverse range of material in safe conditions and protected from the elements. For others in extreme environments and the developing world, flood zones or in displaced areas, setting up permanent structures can be near impossible so mobile Loose parts play materials can be a great solution to overcoming these challenges because they are so flexible. In addition, loose parts offer many benefits over traditional, fixed equipment spaces.

### **Fixed Equipment:**

- + Can be very expensive to install
- + Have generally been designed for maintenance and surveillance
- + Tend to focus on gross motor play (running, jumping, spinning)
- + Have equipment intended to be used in specific ways
  - + Become boring over time
  - + Are inflexible to children's ideas

### **Loose Parts:**

- + Can be cheap or free to create
- + Are redesigned daily by the children
- + Require maintenance and storage
- + Accommodate all play types equally
- + Allow children to build, dismantle, bang together, repurpose and more, to make their ideas real in the world
- + Become more engaging over time, as children's skills increase
  - + Encourage peer play and social cohesion



# Why is **PLAY** so important?

## **Cognitive**

Play dramatically increases brain development, helps children concentrate better in class, and reduces stress, which hinders learning.

## **Social**

Children are able to practice skills of teamwork and solitude, and helps them to make new friends

## **Therapeutic**

Play is an intuitive method for children to process trauma, and reconnect to the world

## **Intellectual**

Play involves understanding that one thing can represent another, and the use of narratives, both of which are essential for literacy

## **Physical**

By encouraging children to move, stretch, run and climb, play is essential for children's physical development

## **Emotional**

Through play, children learn emotional self-regulation and resiliency, which is critical for success throughout life

## **Creative**

By allowing children to translate their ideas into reality, play encourages a rich and flexible creativity

## **Economic**

All of the above benefits combine, so that children with access to play are also more prepared for and able to thrive in school and work. This has direct financial economic benefits for the rest of their lives.

You can read more about the benefits of play through exploring the "Further Readings" list at the end of this manual, and in *The Case for Play*, available for free online at [www.playgroundideas.org/caseforplay](http://www.playgroundideas.org/caseforplay)

# The role of the teacher

As staff, you may wonder to what extent you should involve yourself in their play. Below are some principles to guide you. These are taken from an professional approach to supporting children's play, known as playwork.

## Keep a light touch

When making changes in the environment, or circulating during play, practice working as subtly as possible. If you see that a material may be needed soon, you can provide it 'invisibly'. For example, if a child is building and you can see that soon they'll be out of tape, you can leave a roll of tape nearby. It will be there when they are ready.

## Waiting to be invited

It is easy for many adults to walk straight into children's play and ask them questions about what they're doing or why. In some educational settings, this is encouraged. However, we prefer not to interrupt children who are playing happily and instead recommend to stand back and observe and wait to be invited. Of course, this is not the case if there is an immediate serious danger.

## Respond to cues

An invitation, or 'play cue', can take many different forms. We read and respond to cues all the time, though we may not usually call them such. A child might look over their shoulder at us, squeal and giggle and run away. It is an easy guess that they want us to chase them. When we respond to a child's cues, we are saying 'yes' to something that comes from deep inside them, something which is very important to them in the moment.



## How to deal with challenging behavior

Sometimes, children will experiment with different roles to understand the boundaries and rules in an environment (they also get tired, hungry and irritable as a result. If a child pushes their way into other's games aggressively, or seeks our attention in ways we find difficult to manage. Asking ourselves what experiences they are seeking can suggest some ways we might help or subtly redirect them. For example, if a child is throwing rocks too close to other children, we quietly challenge them to hit a tree - one that is coincidentally in the opposite direction. Rarely does opposing their negative behavior with equal force end well.

Rough and tumble or play fighting is very important for children, and a great way to learn social and physical boundaries. However, those without much experience might find that they need practice in how to keep this wrestling playful. In a mixed age setting, they are better able to find partners who can match or exceed their strength, but in the absence of peers we can offer to play with them, being careful to let them stay in charge of the game.

We want to be clear that no one should provide opportunities or responses which they are uncomfortable with - but that, through reflection, we may see ways to expand our skills.



## Observe, remember, reflect

We were all children once. It's good to spend time remembering how it felt to be a child, what we loved and feared when we were small. We can use all this information, alongside our professional training, to help us improve environments for children's play and be more understanding of what we see them do. All these different pieces of information are brought together through reflective practice, which we do both alone and within our teams. Reflection works best when we are patient, honest and brave with ourselves and our colleagues.

# Going deeper

Every action includes some degree of risk, whether we're driving, eating somewhere new, or starting a new job. Some of these risks are frightening to think about, while we take others completely for granted. We regularly consider risks, weighing the likelihood of dangers against potential benefits.

Children want to take risks. They climb trees and balance in high places. They perform for audiences and introduce themselves hopefully to new friends. Taking risks is how we learn what we are capable of, what we can achieve and how to survive failure. Opportunities for risk in play are vitally important, if children are to be their most brave, confident, competent and resilient selves.

When we're selecting loose parts for play, we are also creating opportunities for children to create and experience new kinds of risk. Below are some terms which we've found useful in determining what sort of risks are possible and helpful to provide through play.

## **RISK**

...is the actual chance of injury (whether physical, emotional or social). Risks may be high or low, depending on how likely that injury seems to be. Risks can be easily seen and anticipated and therefore, assessed.

## **HAZARDS**

...are potential sources for harm which offer no benefits to children's play, and which are hard to see and anticipate and therefore may take a child by surprise where they find themselves in a situation that could cause them harm.

For example, children may decide to risk climbing on a piece of old wooden equipment. If they are unaware that the wood is rotten, that is a hazard. We work to increase opportunities for risk-taking, by removing hazards. This creates an environment in which children are safe to take risks.

While we encourage opportunities for children to define and take their own risks, we do not want to suggest that adults be negligent or allow unacceptable hazards in their setting. Likewise, when adults in a setting are profoundly uncomfortable they communicate that to the children, even without knowing that they are doing so. Instead, start small and choose materials that everyone feels comfortable with. When observing how children take risks in your setting, try not to intervene unless serious injury seems likely.

You might be surprised to see what children are capable of.

# Questions and Concerns

## **Who gets to play?**

Children are often separated by age in educational and care settings. However, playing in mixed age groups allow children to practice being leaders and nurturers, and more closely resembles a large family or village dynamic. A rich and varied setting, with children of all ages and abilities, helps to establish an environment in which all are equal in play, and where everyone can be good at something. Diversity benefits everyone.

## **“If adults are not in control, don’t the children become chaotic or very noisy?”**

When groups of children are free to play together, yes, there can be noise. There can be a lot of activity, as games are created and abandoned. However, while it may appear chaotic to some adults, children have a clear structure which they create themselves. Without rules, games do not work. A clear understanding of one another’s roles and responsibilities is essential if children are going to play together. As they manage these complex tasks, children at play are not ‘uncontrolled’ at all, but instead are learning self-control and social skills. These are skills which one cannot be taught, and which will last a lifetime.

## **How long can they play for?**

In countries around the world, recess time is being reduced in schools. Sometimes this is an attempt to create more time for classroom instruction. However, without time to play children will quickly grow irritable and disobedient in the classroom, and with less time to play children will be more impatient with their peers and experience more conflict. When time is extremely limited, children play particularly hard and are less inclined to compromise. Children’s natural tool for learning is Play. It is how our brains are built to learn and denying it will only lead to worse outcomes for the child and the adults around them.

## **“Doesn’t it look very messy?”**

It can! Playing with loose parts suits a child’s aesthetic, rather than an adult’s. As well as the loose parts themselves, dirt and water and paint have a tendency to go everywhere. It’s important to emphasize the freedom and joy children experience in these places, and say “yes, it might be messy, but aren’t they having a wonderful time?”

If other adults are concerned about the appearance of your loose parts playground, try to find a corner where it is tucked out of sight or think of ways to screen it from public view. This can be beneficial for the children too, who often prefer to play with a little bit of privacy.

Playground Ideas developed the Nüdel Kart in direct response to this where children get autonomy and freedom to be creative but pack up and storage is quick and simple for a tired teacher at the end of the day.

## Questions and Concerns

### **“Won’t finding and keeping loose parts take a long time? We have other things to do!”**

While loose parts playgrounds don’t take much money, they do require an on-going investment of time and effort. You can choose materials that take your specific circumstances into account. For example, if you don’t have much time to clean up then choose large recycled materials which are quick to tidy up (such as tires and sheets) and small natural materials (such as pebbles and acorns) which can be shaken from containers and left outside.

Again, Nüdel Kart was designed with educators needs in mind. Activities that teachers find too difficult will not become part of daily practice and that is why we designed the cart to pack up quickly and be rolled away neatly so loose parts can be part of a child’s everyday.

### **“What if they hurt themselves, or each other?”**

When you start bringing loose parts to an environment, children who have been play deprived may struggle with skills of negotiation or self-regulation. You can select loose parts to let them get the practice they need. For example, if you are uncomfortable with the idea of play fighting then don’t provide sticks. Think about the quantity of materials you bring, as bringing only one of something can encourage unhelpful competition.

### **“Do the children get dirty?”**

They can. Hands may become black from rolling tires, and clothes may get covered in dirt from digging. We understand that it’s important and often difficult to keep children’s clothes clean. In some cases, encouraging parents to send their children in old clothes is very helpful. In other settings, old shirts can be supplied by the setting and buttoned over what children are wearing when they arrive. Getting dirty is a part of childhood as children take important risks and fall down as they practice new skills. You can’t have one without the other. Exposure to the outside world may also have important benefits to the immune system & allergies also.

### **“If we use these loose parts, will other adults think we have not invested in our children? That we are giving them a bits of rubbish?”**

Seeing children playing in dirt, or building little houses out of scrap materials, can irritate some adults who tend toward structure and order.. They may be troubled by memories less happy than the ones children are creating currently. We want to acknowledge that playing with ordinary materials may be difficult for some adults to recognize as important and valuable. Even if the loose parts are junk, the experiences children are having here are gold. If people complain at these free, scrap materials being provided for play, it’s important to be clear that you’re developing staff and a setting in line with current best practice, and invested in providing the very best opportunities for children.

Finally, there are other alternatives to junk for loose parts play as we will explain in the following pages.

# Curriculum integration

In this document, we have looked at a number of philosophies and techniques which are central to playwork approaches. However, we appreciate that you may have other competing responsibilities such as the curriculum. It's just important to remember that play supports children at a deep level and adequate play will help children to have much better experiences at school and the other contexts in which they spend their time.

If you are working within a school setting, there are many ways to take materials and ideas from these recess suggestions and incorporate them into the classroom. Being clear about the benefits of loose parts play for children's educational achievement may help you win support from parents, administrators and grant funders.

Studies comparing children's understanding of specific phenomena show that being able to 'play with ideas' helps them make it their own. For example, a section on the flow of water may allow time for children to experiment with weights, measures, floats and funnels. In an art class, children may be given a subject to depict, but be allowed to use any materials or techniques they like. When children are free to experiment, they are more able to become innovative problem-solvers, and to develop flexible thinking. Consider the difference, in your own experience, between being shown how to do something and the thrill of figuring it out for yourself.

When including loose parts in the classroom, you are able to decide how 'free' to let the children be with them. There is a spectrum of approaches, with adult-directed at one end and child-directed (or self-directed) at the other. You can decide where on that spectrum each activity will fall - though, we would always encourage your finding ways to move farther towards self-direction whenever possible!

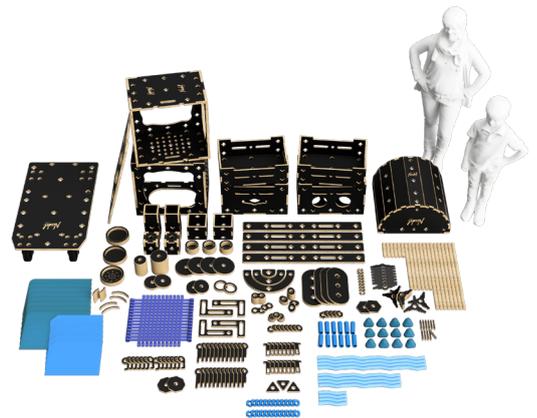


# Nüdel Resources - A loose parts play solution

Nüdel Resources is our solution to create loose parts deep play experiences for children in a way that is easy for educators to implement. Nüdel creates an instant, stimulating space to play with endless possibilities - anywhere, anytime. With infinite configurations, it has been designed to supercharge the brain, maximise learning and development and increase student and teacher wellbeing. Nüdel Resources teach what cannot be taught, as some skills need to be experienced first hand.

**Nüdel**  
KART™

340 play pieces  
For up to 30 children  
Perfect for a whole class  
Children 3-12 years



**Nüdel**  
ROVER™

140 play pieces  
For up to 8 children  
Perfect for small groups  
Children 1-12 years



Nüdel resources are deconstructable, mobile play carts that can be reconfigured in endless ways to encourage self-directed learning. They contain research-backed specially selected materials to stimulate children's development.

Nüdel can be used in many settings, indoors and outdoors. It works across age groups, is not gender or culture specific and is highly supportive to people of all abilities. Both the Nüdel Kart & Rover can easily be operated a single person and is easy and fun enough that children can and will pack up the resources on their own for you!

## Nüdel Resources - A loose parts play solution

- + Focuses on loose parts, not fixed equipment
- + Is made from natural and non toxic materials and 100% plastic free packaging
- + Can be expanded with additional Nüdel Resources and local materials
- + Is child-led, not activity based
- + Is interactive
- + Designed fundamentally to encourage the highest forms of learning: (imagination, creativity, problem solving and social interaction)
- + Can go anywhere, into any place, including refugee camps
- + Doesn't require infrastructure or power
- + Is long-lasting and made from the most durable materials
- + Is small enough to store indoors, so it can be protected from harsh weather, theft & misuse
- + Children are able to set up and pack up the cart on their own



## Nüdel and the power of loose parts play

Loose Parts is simply a name for stimulating materials that children can manipulate in endless ways. Through this process they learn the foundational principles of how the world works. Loose parts are open ended and reusable in an infinite number of ways. Unlike other educational resources that can sit unused, Nüdel allows children to have a different learning experience everyday without losing interest, making it a smart investment over the long term.

It is precisely because of their open-endedness that loose parts engage the highest forms of thinking and interaction such as creativity, problem solving, social skills and emotional intelligence. Loose parts play and Nüdel support STEM learning through authentic engagement in real world challenges.

Loose parts are also excellent for psycho-social support for children from traumatised and disadvantaged backgrounds allowing them to express themselves in a safe, open ended and creative environment.



## Nüdel was developed to answer a difficult question:

### **How can we provide quality play experiences for all children to maximise their full developmental potential?**

Building on over ten years of global experience creating stimulating spaces for child development, non-profit organisation Playground Ideas developed Nüdel Kart in collaboration with a global team of designers educators and researchers.

The aim was to fulfill both the critical developmental needs of children in early life and to solve some of the many hurdles educators and carers face in responding to those needs. Children across the globe live in hugely different places and situations, but their developmental needs are remarkably similar. Children have powerful internal tools to drive their own development, and that drive is called “Play”, which is often unrecognised and undervalued for its efficacy.

Nüdel Kart has been designed, prototyped and trailed in some of the most divergent contexts for children on earth, from crowded refugee camps to privileged western schools to do what it was designed for: an intuitive, easy to use tool for free play and developmental learning. Nüdel Kart makes it easy for teachers to create an environment for children to learn skills that need to be experienced in the real world and that can't be taught from a textbook.

**Find out more at [www.nudelkart.com](http://www.nudelkart.com)**



Nüdel manuals and resources can be found at:  
[nudelkart.com/nudel-kart-resources-manuals](http://nudelkart.com/nudel-kart-resources-manuals)

Check out our other play manuals by simply creating an account so you can access over 150 playground designs and more than 10 handbooks at:  
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