

***Knowledge about nature starts in nature!***

***Children need to be reconnected to nature!***



*Author Gunilla Holmberg*





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## ***Outdoor play needs to be restored!***

Throughout history nature play has happened automatically during childhood, but today that kind of play that has been a cherished part of childhood for so many generations is endangered.

Many more people live in cities and suburbs today, where access to wild spaces appropriate for children's play often is very limited. A lot of children today spend more time indoors and are more or less disconnected from the natural world and it has a huge impact on their health, development and knowledge about nature. The disconnection between children and nature is one of the most pressing and overlooked crises in our time.

*Does the loss of childhood nature play really matter?*

***Yes it does!***

During the early childhood years children need opportunities to get out and explore nature without predetermined activities or objectives. Research shows that natural environments and outdoor play are beneficial to children in many ways. Playing outdoors is important for developing capacities for *creativity, symbolic play, problem solving and intellectual development.*



Physical activities from an early age is particularly relevant if we consider the growth of children's obesity worldwide, but also prevent heart disease and other health issues later in life. This is maybe the generation that will have a shorter life expectancy, than their parents.

Frequent, unstructured childhood play in natural settings has shown to be the best influence to develop life-long conservation values. The world's environmental problems are increasing and it is important to raise a future generation, who have positive views of nature and are willing to take action to protect it. Temporary visits to nature in a diverse range of settings, from zoos to national parks, will probably not foster bonds with nature. If we want future generations to bond and fall in love with nature, outdoor play must have high priority in children's everyday activity especially during the childhood years.

*"No-one will protect what they don't care about and no-one will care about what they have never experienced."* [Sir David Attenborough](#)

Children that have many opportunities to play and discover nature will get knowledge about all that is living and growing, they will understand our living conditions better. Nowhere is so much to discover, to play with, as in nature and nowhere can children get so much knowledge about their own living conditions as they can in a small piece of wild nature. Experiences in nature give a feeling of responsibility to nature and animals, all that is living. No environment is so full of play material as nature. Nature gives children a maximum of space to run, jump, climb, roll, spin to a minimum of prohibitions and restrictions. In nature children's big needs of *movement, knowledge, interaction and thrill are fulfilled.*

*Outdoor and natural play increases children's*

- Gross motor skills
- Eye and hand coordination
- Coordination
- Problem solving
- Balance
- Concentration
- Social-emotional development
- Reduce stress
- Scientific and mathematical exploration
- Language development
- Creative expression
- Prevents obesity

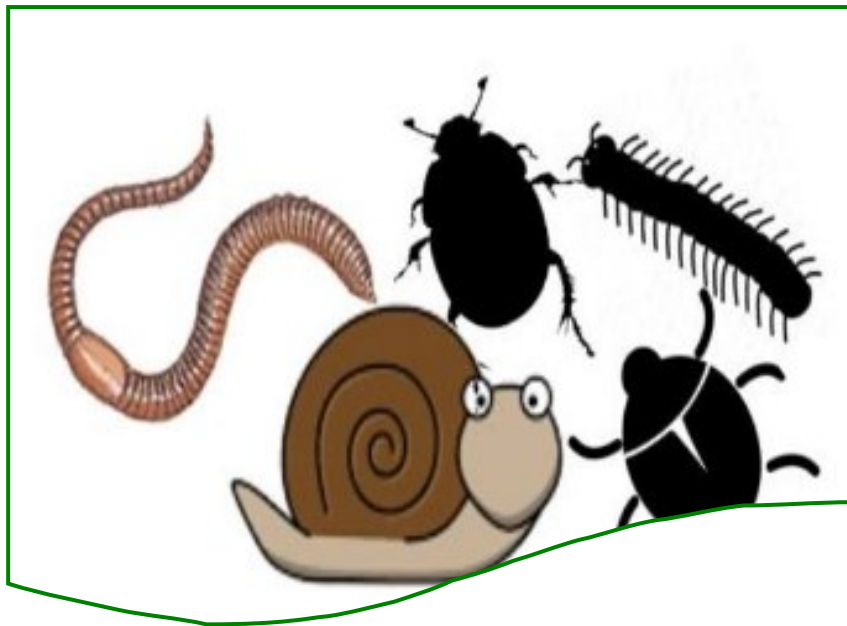
In nature children can discover how nature works, learn the correct names for animals and plants and learn to question and investigate. The best way for small children to learn is, *when they can see objects, touch them, taste them, hear them and smell them.*

**Let children be active learners**, children benefit from *active hands-on discovery earning opportunities.* To give children environmental education for sustainability at an early age, with hands-on experience in nature is more important than ever. Outdoor play promotes a relationship with the natural environment and provides and environmental knowledge and ecological understanding of the world. The future will need *ecological literate adults* who are able to recognize common plants, animals and interpret what they see in nature.

**Let children play in the mud, pick flowers, climb trees, collect natural items.**

**Everything goes around in nature.**

The life cycle of a tree provides children with a good example of recycling in nature. Leaves that fall down from the tree, make a leaf litter on the forest ground. Leaf litters are habitat for a big variety of nature's recyclers. Nature's own clean-up crew. Let children meet the tiny creatures that are critical players on this planet, as pollinators and helpers in nature and gardens.



*Bees, butterflies, ladybugs, ants, snails, slugs, beetles, sow bugs, millipedes etc.* Children will discover that even the smallest animal has an important role in our ecosystem.

***Respect, protect, and preserve*** the natural world!

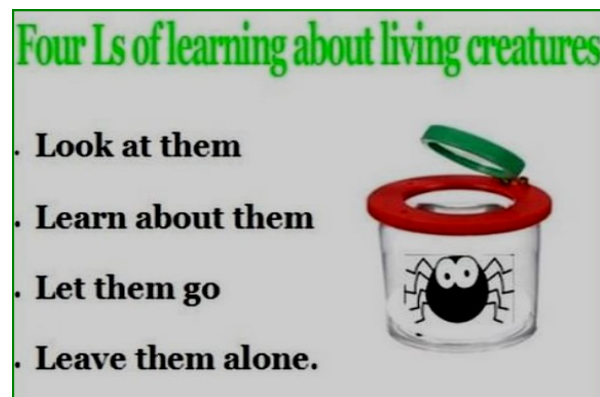
Children must be educated not to leave rubbish behind and throw things away in the environment. We as adults must help children to understand the damage litter can do to wildlife and the environment. We need to be good role models and practice environmental good manners.

***Children don't do as we say, they do as we do!***

### ***Respect for all living***

*Teach children the Four Ls about living creatures*

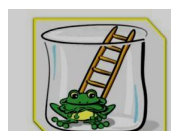
- Look at them
- Learn about them
- Let them go
- Leave them alone



***Nature is also the ultimate resource for eco-friendly craft and art materials for children.***

Nature is filled with some of the best “toys” that can be offered. Natural materials with open-ended possibilities stimulate and empower children’s creativity, imagination and fantasy and they can be used in play in many ways. Nature based loose parts can range from simple natural materials. Pieces of *bark, small stones, seeds, pine cones, twigs, fallen leaves, flowers, branches, pebbles and so on.*

***If we want future generations to carry on the work of conservation, willing to care and protect the environment, then nature and outdoor play must be restored.***





## ***Loose parts***

Nature is filled with some of the best toys that can be offered to children and can be enriched into indoor and outdoor play. *Loose parts* are any collection of natural or manmade objects that can be used into children's play. The loose parts are supporting *invention, divergent thinking, problem solving, creativity and phantasy*. They are materials that can be moved, carried, combined, redesigned, lined up and taken apart and put back together in multiple ways. They are materials with no specific set of directions and can be used alone or combined with other materials. Loose parts is an open ended resource, which means that it has multiple uses and limitless possibilities, there are no rules to follow, no expectations, no specific problems to solve and no pressure to produce a finished product.



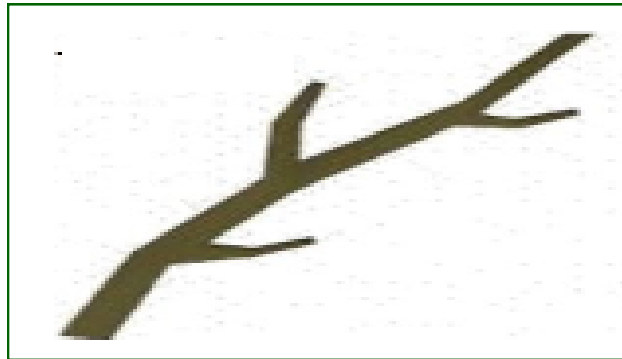
Open ended materials stimulate and empower children's *creativity, imagination and fantasy* and can be used in play in many ways. Researches have also shown that open ended material is the most educational material for young children's learning and development. *The seven types of loose parts are:-Nature Based - Wood Reuse -Plastic -Metal Ceramic/Glass -Fabric/Ribbon -Packaging.*

## ***The theory of loose parts***

The theory of "loose parts" first proposed by architect **Simon Nicholson** in the 1970's has begun to influence child-play experts and the people who design play spaces for children in a big way. *Nicholson believed that it is the 'loose parts' in our environment that will empower our creativity.*

*To promote the use of the eco-friendly material that nature offers is a sustainable option.*

***The stick may be the world's oldest toy.*** Children find sticks an endless source to make believe fun. Sticks can be turned into swords, magic wands and fishing poles. When children pretend with sticks, they cultivate their creativity and develop their imaginations. Children can build with sticks, bat balls with them, and even walk with them. They are the original building blocks for creative play.



***Never underestimate the power of a stick.***



### ***Let's plant!***

Gardening is fun for children and at the same time, they gain important knowledge and skills. They learn about the different plants and what a plant needs to grow. They also learn about different cycles, seasons, weather, flowers, fruits and vegetables, insects, birds, wildlife, mini beasts, and about science and scientific concepts. Gardening is the ultimate hands-on botany lesson!



A garden is like a science lab, with a myriad of topics and scientific concepts to discover. What do the plants need to grow? Why do the plants need sun? How do they drink water? Do the plants need food? Do the plants breathe? The life cycle of plants, soil composition, photosynthesis and more !

**For urban children**, gardening and planting can offer a connection to nature, caring for a plant and nurturing it, develops a positive relationship with nature. *For some children*, this may be their first experience taking care of a living thing. Caring for a plant teaches children **responsibility and also respect for all living things**. Their social skills will be developed by working with other children and adults; children learn important life skills, such as *cooperating and sharing ideas*. When gardening they experience things firsthand and participate in active learning. *Hands-on activities* are important for children's learning and they learn best by doing, not by watching. Gardening also helps develop children's fine motor skills and hand-eye coordination and also promotes their gross motor skills by activities like **digging, raking, shoveling, watering and pushing a wheelbarrow etc.**

### **Gardening benefits**

- . **Engages all the senses**
- . **Encourages healthy eating**
- . **Promotes fine and gross motor development**
- . **Develops hand-eye coordination**
- . **Introduces children to scientific concepts**
- . **Teaches responsibility**
- . **Social skills**
- . **Teaches life skills**



To plant vegetables with children can be a great way to introduce young children to where food comes from and also encourages them to eat fruits and vegetables which lead to a healthy lifestyle. Research shows that children who grow their own food are more likely to eat fresh fruits and vegetables. A visit to the local vegetable and flower market is a good way to start *a veggie and flower gardening project with children*.

To empower the children, involve them in the planning of the garden and let them have a say about which plants and vegetables to choose. If you do not have enough space for a garden, you can grow flowers and vegetables in containers. Almost any vegetable that can be grown in a garden will work well as a container-grown plant. Mix new and recycled containers to plant in.

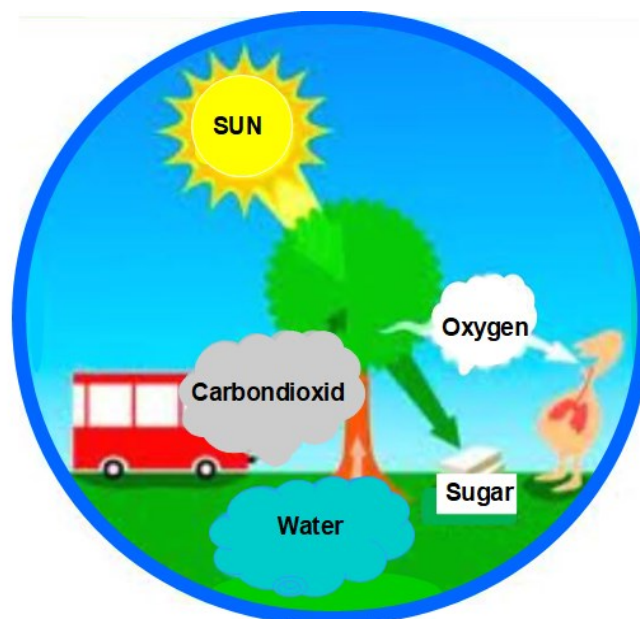


Some plants are toxic for children, they should be avoided in a child-friendly garden (check online or a plant lexicon for your own country). Make sure that plants and seeds used with children are not poisonous or coated with pesticide.

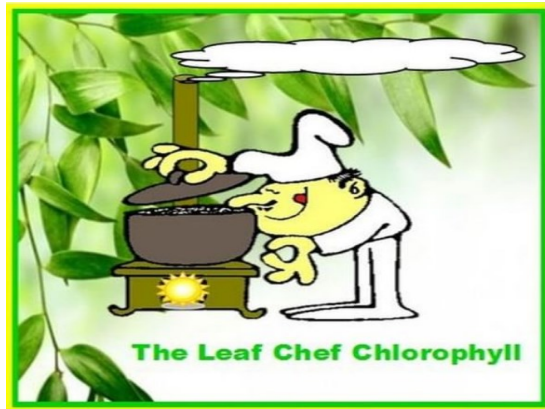


## ***Photosynthesis***

All that is living needs energy. Energy is food. Plants need food and they make their own food in their leaves by a chemical process called *Photosynthesis*.



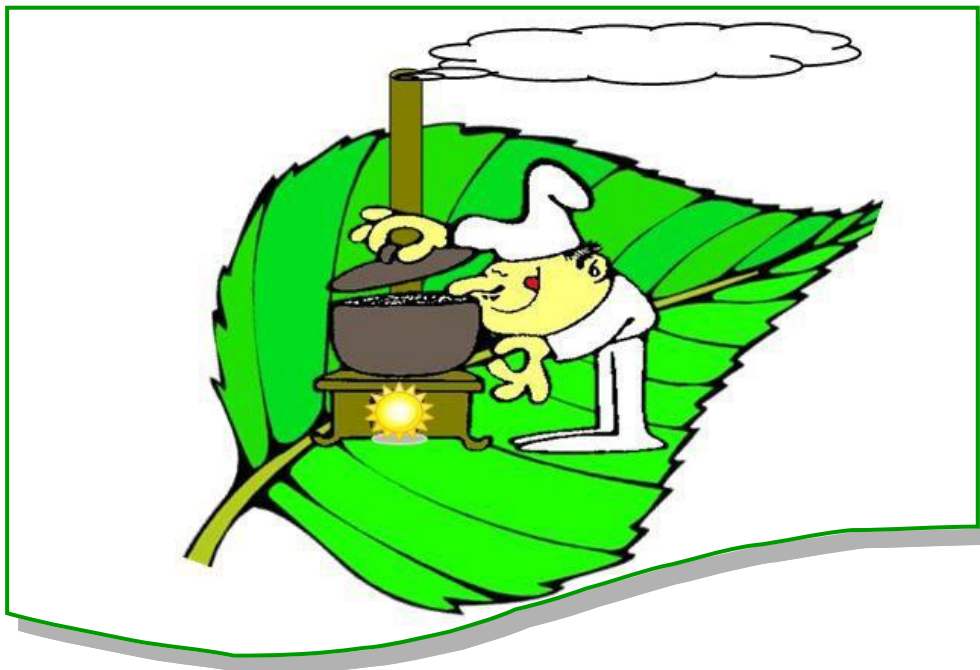
*Photosynthesis is an interaction between man and nature!*



## ***Chef Chlorophyll***

For small children we can explain *Photosynthesis* by telling a little story about the *Chef Chlorophyll*.

Every leaf has a small kitchen and in the kitchen works *Chef Chlorophyll* and he cooks food for the plants. The dish he cooks is sugar (*glucose*). He mixes water with air (carbon dioxide) that he has stored in his kitchen and cooks it on his stove (the sun). The smoke from the cooking goes out from the leaf, towards a chimney (stomata) into the air. The smoke (oxygen) from the chimney is the air we and animals breathe. When the autumn comes, *Chef Chlorophyll* closes down his kitchen and moves down to the roots with all other chefs. The chefs are resting and waiting in the roots for the spring to come. The leaf kitchens are closed during the winter, but when spring comes the chefs will reopen them again.



## ***Composting with children***

Composting is a natural biological process of decomposition and recycling of organic material (*such as leaves, grass, fruit and vegetable scraps and food waste*) into dark brown crumbly soil that smells like forest.

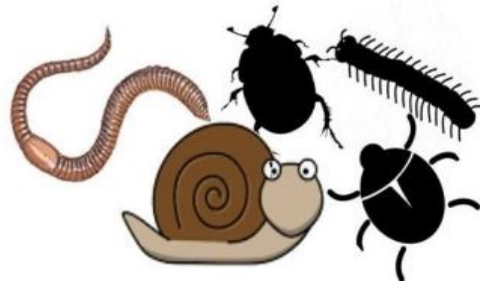


Composting can be an important school garden program as it provides a responsible way to reuse waste with numerous science and math connections. Composting can also help remind students we are part of a bigger picture. We can raise children's awareness of the environment by introducing them to the basic principles of taking responsibility for the waste we generate through composting. Composting with children teaches them that organic wastes are potential resources that can be converted into soil rather than just something "gross" that we throw away.



Children learn through direct experience that they can make a difference and that their actions can have a positive effect on the environment. Composting also teaches children how the environment works, nature's way of recycling and the life cycle.

When the organic waste starts to break down, children will find all sorts of bugs and crawly things in the pile, *as millipedes, sow bugs, worms, snails and slugs* who help to shred the organic matter into smaller parts that allows microorganisms (*e.g. bacteria and fungi*), to finish the process. Children will learn the importance of worms and slugs and how microorganisms work to give us soil. They will discover that even the smallest animal has an important role in our ecosystem.



Composting with children is a *hands-on science experience* and also an introduction into the world of science especially biology, chemistry and physics. Composting also helps children to understand the three environmental r's: *recycle, reuse and reduce*. Children learn the difference between biodegradable products and what ends up in a landfill.

#### *Composting teaches children*

- Environmental awareness
- Science
- Biology. chemistry and physics
- Life skills
- Recycle, reuse and reduce
- How the environment works
- How to reduce waste
- That even the smallest animals have important roles in our ecosystem
- The difference between biodegradable waste and non biodegradable waste.

Talk to children about what happens to the waste. Where do they think waste goes? We put the waste in a bin, where does the waste go after the bin is emptied? What happens then? Waste that we throw away is taken to a “*big rubbish dump*” which is called *landfill*. What will happen to the waste at the landfill? Some waste will decompose and disappear. *This is biodegradable waste*. Other rubbish doesn't decompose which means it stays at a landfill forever. This is *non-biodegradable waste*.



## Composting with children

Choose a place to set up your compost bin . A good place could be near your garden or a location close to a source of water. The best compost is a mixture of green things, like fruit and vegetable peelings, teabags and grass cuttings, along with brown things, like cardboard, egg boxes and paper!

Brown stuff is dead, dried plant parts like leaves and pine needles. They rot more slowly and provide carbon and fiber and also allow air pockets to form

- Cardboard
- Egg boxes
- Paper
- Leaves
- Twigs and branches
- Sawdust
- Egg shells
- Nuts
- Cotton wool

Green stuff is fresh, living parts like grass clippings, kitchen vegetable scraps, weeds and other plants. They rot quickly, and provide important nitrogen and moisture

- Tea bags
- Grass cuttings
- Vegetable peelings, salad leaves and fruit scraps
- Coffee grounds
- Old flowers and nettles
- Rhubarb leaves

**It is easiest to build the compost bin in layers of ingredients. Start your compost pile on bare earth. This allows worms and other beneficial organisms to aerate the compost.**

1. Wet the ground under the heap if you are using an open bottom compost bin. This will help prevent the ground from soaking up the moisture from the pile. It will also encourage earthworms to visit your heap.
2. Start with the brown stuff by spreading a layer of leaves or pine needles about 15-16 cm thick.
3. Next, for the green stuff, add a layer of grass clippings a few cm thick. It is helpful to mix the layers up a little as you make them.
4. Sprinkle a shovelful of soil or compost to add microorganisms to the bin.
5. Each layer shall have a good sprinkle of water to wet the ingredients. It is important to wet each layer when you build it. Repeat each of the layers until the bin is full.
6. Every 1-2 weeks the pile a quick turn with a pitchfork or shovel. This aerates the pile. Oxygen is required for the process to work, and turning “adds” oxygen.
7. Cover the pile with wood or plastic sheeting, carpet scraps. Covering retains moisture and heat, two of the essentials for a compost. Covering also prevents the compost from being over-watered by rain.



**Never** – Some things you should never put in the compost, they don't rot or rot slowly and can even spread a odor and can also attract rats or other vermin.

- Bread
- Cling film
- Plastic bottles
- Crisp packets
- Meat
- Coked vegetable
- Dairy products
- Animal waste



## Compost bin from pallets.

All you need is 4 pallets and about 18 12" Heavy Duty zip ties. Make sure you have a nice leveled spot for the compost bin, then just start assembling the pallets. Start by putting two pallets together with the zip ties to form a 90 degree angle (thread the end of one zip tie into a second zip tie to make them long enough to wrap through both pallets.) Continue doing the same for the other side of the bin. Only put the front pallet to one side as you will need to be able open the front. It doesn't open as nicely as having hinges but it does work. You can also easily attach the pallets together with screws and add hinges to the front.

*The idea comes from the website the real farmhouse*



***Empowering children to work for a healthy cause at young age can make them become positive and influential leaders in the future.***





# ***Knowledge about nature starts in nature!***

*Children need to be reconnected to nature!*

Throughout history nature play has happened automatically during childhood, But today that kind of play that has been a cherished part of childhood for so many generations is endangered.

Many more people live in cities and suburbs today, where access to wild spaces appropriate for children's play often is very limited. A lot of children today spend more time indoors and are more or less disconnected from the natural world and it has a huge impact on their health, development and knowledge about nature.

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