

## **Creating Green Environments to Sustain Children, Staff and our Planet**

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Society is moving rapidly into a period where we collectively are looking at how our actions and choices impact others and our environment. Global warming, children's health problems and developmental disabilities are increasing at an alarming rate. Childhood obesity, cancer in children and asthma have reached epidemic proportions. The autism rate alone in the United States has risen from 1 in 20,000 in the 1980's to 1 in 150 children in 2008! Autism is more common than pediatric cancer, diabetes and AID combined. Books on autism and sensory integration problems can now be found in mainstream early childhood publications.

While there is no doubt that many of these childhood maladies have a genetic component, only recently have we come to realize that possible contaminants in the environment can have a devastating effect on young children. Since the dawn of the 20th century, the Western world has introduced over 70,000 chemicals into our environment in order to make our lives more convenient. We assume that all of these chemicals are safe when, in fact, many have been scientifically proven to cause developmental disabilities. Many of these chemicals stay in the body for a lifetime where they are stored in body fat and in the liver. Long term effects of these chemicals still are unknown.

Beginning in the womb, babies and children are more vulnerable to environmental toxins. Pound for pound, children breathe more air, drink more water and eat more food than adults. Their neurological systems are still developing and often times they are playing on the floor where chemicals are often used. Young children are very orally stimulated, so everything goes into the mouth. These known behavior patterns put children at more risk to accidental exposure.

Now is the time for all of us to look at how the world and our daily environment are interconnected. Sustainability or green living means much more than being environmentally friendly and includes more than simply reducing, reusing and recycling. Sustainability requires a new awareness of how our individual and collective action can and will affect our children as well as the environment. The truth is that if we quit buying "it" the manufacturers will quit making toxic toys, children's furniture and construction materials.

As role models who are constantly demonstrating value education for young children, early childhood educators can also help parents and the broader society understand how to make choices that best serve children and protect our environment. The results will be healthier children and more productive adults. This article will show you how to live consciously, buy wisely, and make a difference.

## **Live Consciously**

At the childcare center and in our homes, the American consumer spends, on an average, significantly more than the rest of the world for goods, heating, cooling and water usage. The energy used, whether it's from coal, petroleum or natural gas, causes carbon dioxide emissions. These emissions accumulate in the Earth's atmosphere and trap the heat of the sun to cause global warming. There are some simple steps that you can take to cut down your center's energy emissions and cut yearly heating and cooling expenses.

- Cool off-warm up with a ceiling fan. Fans can be used to circulate air in both winter and summer which will let you change your thermostat setting. Buying a ceiling fan with the Energy Star seal means it meets the strictest guidelines by the EPA and the US Department of Energy.
- Upgrade your thermostat. A programmable thermostat can be used to automatically lower or raise the setting on the heating/cooling systems when the building is not occupied. This change can pay for itself in just one year.
- Change your light bulbs. Lighting accounts for 20% of all electric usage. Switch your old light bulbs to the new compact fluorescent light bulbs that use one third less energy than regular bulbs and last 10 times longer. If replacing compact fluorescent bulbs, remember that they can contain small amounts of mercury so they must be disposed of properly.
- Check the toilets. Having a leaky toilet mechanism can waste up to 500 gallons of water per day and we have lots of toilets in child care! Consider upgrading your toilets to the low flushing type if it was installed before 1993.
- Consider green building practices if you are remodeling or doing new construction. Building green means less energy and water consumption, less impact on landfills, less global warming and a healthier environment for children and staff. A recent study called *Greening America's Schools: Costs and Benefits*, commissioned in 2006 by the American Institute of Architects and American Federation of Teachers demonstrated that there are environmental benefits, as well as reduced operating costs, healthier children and fewer sick days used by staff in green buildings. The complete report can be downloaded at [www.cap-e.com](http://www.cap-e.com) There are several certification systems used to create a sustainable environment. The most commonly used voluntary green building rating system is LEED (Leadership in Energy and Environmental Design). Many American cities are passing ordinances that all new construction must be LEED certified. Schools, both public and private, have taken a leadership role in creating healthier environments for children. Green childcare and early education buildings have been noticeable few.
- Weatherize your existing building. Ignoring gaps near windows and pipes is similar to heating or cooling your center and then opening the door. Check for leaks by holding a lighted incense stick next to your windows

and doors on a blustery day. If you see horizontal movement of the smoke, you have a leak that needs to be sealed.

Before moving onto how to buy wisely, let's look at ways early childhood staff can help eliminate waste and reduce paper usage.

- Use your computer to eliminate paper by using email rather than memos or faxes.
- Offer your training materials and annual or funding reports on disc rather than paper. This saves on paper and the use of toxic printing materials.
- Develop a good web page to store necessary parent information and communications including policies.
- Use distribution lists rather than making individual copies.
- Use fax stick on sheets rather than a cover sheet.
- Use both sides of the paper when copying or printing.
- Consolidate forms and reduce margins and font size to save paper.
- Reduce your printing toxicity by choosing printers that use vegetable based inks instead of petroleum-based inks.

### **Buy Wisely**

You only have to look at the variety of early childhood furniture and equipment vendors to know that early childhood educators are mass consumers of goods. Many items in the early childhood market gave rise only when we as consumers demanded them. When I started in early childhood education in 1978, there were only a few equipment vendors to choose from but as consumer demand has increased, so has the complexity and variety of things on the market.

At one time the market for so called green products was very small and the cost to the consumer was considerably high. Given the current and ongoing rise in consumer demand for healthier choices, the green options have become cheaper. Target, Wal-Mart, Costco and Sam's Club all now carry organic foods, some organic toys and paper products made from recycled content. Office Depot has an entire line now of green office supplies. By shopping around and buying in bulk, costs for healthier and green options are now about the same for some products.

As a consumer, early childhood educators must learn new ways of doing business. Educate yourself about green products, know who provides certification and think for yourself. Just because someone sells a product does not mean that it is healthy or safe for young children.

We should all begin our sustainable buying practices for all products with the following questions for vendors and ourselves.

1. Is this item really necessary? We recycle very little and buy way too many goods. Sometimes we buy without really evaluating our need and current resources.

2. Were any toxic paints or finishes used to make this product?
3. What are the component materials of this product and did they do damage to the environment in creating it? Don't be afraid to ask the right questions. Manufacturers will provide this information if we demand it.
4. What safety standards does this product meet?
5. How is this item cleaned? Consider the toxicity of these cleaning products.
6. How far is this item being transported? Buying locally means less pollution and fewer transportation costs.
7. How long will this product last? Children are hard on all products including furniture. I would rather invest in quality products and have the item last over time than constantly repairing or replacing things.
8. When the life cycle of this item is complete, how will I recycle or dispose of it? Does the item have any toxic parts that would harm the environment in the disposal process?
9. Will this product off-gas chemicals that are harmful to children or the environment?

The United States is an economy built on the use of plastics. This is not true in the rest of the world where many toys, props and infant items are made of wood or washable cloth. The problem with plastics is that some of the softer plastics used in teething toys, play props, bibs and art aprons are PVC plastic. This plastic contains phthalates, chemicals that leech into our environment. Phthalates are linked to developmental disabilities, asthma and reproductive problems. Another plastic, polycarbonate, used in baby bottles, contain a chemical know as bisphenol A which behaves like estrogen in the body and has been shown to migrate from worn or heated bottles.

While you might not be able to eliminate all plastics from your classroom environment, stay away from the softer plastics and use the following guidelines:

- Substitute other more natural materials such as wood or organic cotton for any unknown plastic materials.
- Buy toys from vendors who label them as phthalate free. Do not buy toys from other countries where you do not know the origin or content of the materials.
- Read the plastic designation listed on the product within the recirculating arrows on the bottom of the product. Do not buy toys made of soft plastic #3, which is likely to be PVC.
- Look for baby bottles made of tempered glass or less toxic plastic #4 or #5. Do not buy bottles with the label polycarbonate #7.
- Buy baby bibs and art aprons of cotton or nylon rather than plastic.
- Throw away any plastic items made before 1998 when labeling standards became more stringent.

Every item that you place in the classroom environment emits what are called volatile organic compounds, VOC's, whether we are talking about furniture,

construction materials, cleaning products or toys. These emissions foul our indoor air quality and can have a devastating effect on young children's developing neurological systems. When buying classroom furniture, selecting construction or cleaning products follow these guidelines:

- Choose furniture that is finished with no formaldehyde. California has just passed standards prohibiting classroom furniture finished with this developmental toxin so we can expect more early childhood vendors to pay attention to toxic finishes on furniture in the future. Choose furniture that is finished with natural oil or a water base finish. Ask the furniture vendor for a statement of the materials used in making this product.
- When painting, laying carpet or remodeling ask for products that have a low VOC and are certified by an independent organizations such as Green Seal or Green Guard as being non-toxic for children. Every product we use in construction or in the classroom has a greener, less toxic counterpart so do your own research. Another tip is to put the product you are considering to use in a covered glass container for several days. After you remove the lid, smell the contents. If it has a chemical odor, do not use the product with children.
- Use safe non-toxic cleaning products including sanitizers that are EPA registered. Chlorine bleach is an inexpensive option used solely in childcare centers, but it is a toxic chemical and produces dioxin in processing. Schools and hospitals across the United States have led the way in choosing safe or green cleaning products that are just as effective and affordable as the more conventional, toxic product. Log onto <http://www.healthyschoolscampaign.org> and order their free disc on green cleaning, or better yet, order ten free copies and share with other directors, licensing and public health staff in your area. Childcare really lags behind public schools when it comes to greener and safer cleaning. Several states have already mandated that public schools use green cleaning products.

Nearly half of all the trees cut in North America are made into paper. To make paper wood is ground, pressed, dried and chlorine bleached. This process produces over 1,000 different chemicals including the carcinogen, dioxin. In 2005, the US generated 246 million tons of solid waste and nearly 35% of this was paper.

The availability of recycled paper and greener office supplies has grown in the United States to meet the growing demand. Look for paper that is processed chlorine free (PCF) and has a post consumer (PCW) content higher than 85%. There are other suggestions that you can use to cut down on paper purchasing and usage.

- Use ceramic mugs rather than disposable ones.
- Use washable clean up rags or sponges rather than disposable ones. Sponges can be put in the microwave to sanitize.

- Cloth rolled hand towels in the adult bathroom can be used 100 times before being made into rags.
- Make paper-recycling part of each room in your center.
- Use a company such as Paper Retriever, [www.paperretriever.com](http://www.paperretriever.com), to help raise funds while recycling paper. This community based program pays schools, churches and non-profit organizations for their paper recycling efforts.

### **Make a Difference**

All of this information can be confusing and it's hard to figure out what to do. But, what you do as an individual, an early childhood practitioner and a community resident does matter.

"It's amazing what a small group of committed people can accomplish to change the world. In fact, it's the only thing that ever has", Margaret Mead.

At one time we used asbestos as a building material and lead in many of our products including gas. Social education and social action has helped our nation to understand how these choices affected children and the environment. These actions led the way for us to ban these substances.

They say that the journey of a hundred miles starts with one step. Begin to educate staff and parents on the issues discussed in this article. Then, create your own network of people with whom you can discuss their social and ecological concerns. Everyone can do a variety of steps to reduce their impact on the planet. Encourage everyone to visit [www.myfootprint.org](http://www.myfootprint.org) and see for them selves what type of impact their lifestyle has on our planet.

Refer interested parties to the Turn the Tide program, [www.turnthetide.org](http://www.turnthetide.org), that uses ten simple steps that anyone can take to lessen their impact on the environment. Participation is free and you will receive a log to track your actions and impact.

Get involved in affecting our nation's environmental policies. Vote for candidates that support:

- Renewable energy sources.
- Green transportation options.
- Setting standards for recycled products.
- Tax credits for consumers who follow green practices.
- Funding sources for green construction.

The League of Conservation Voters publishes an annual scorecard on the environmental voting records of Congress. The Center for A New American Dream has a page that describes procurement policies of government agencies

that have reduced their impact on the environment and saved money. Use your political knowledge to make decisions.

### **Conclusion**

We have learned through this article how to live consciously, buy wisely and make a difference for children's health and the environment. In teaching children about environmental issues, emphasize the positive, be a good role model and enlist parent participation. Together, we can choose to make a difference!

### **RESOURCES**

Institute on Creating Sustainable Environments for Young Children, 2 Day Training, June 2009,  
[www.whitehutchinson.com/children/sustainableinstitute.shtml](http://www.whitehutchinson.com/children/sustainableinstitute.shtml)

Center for Children's Health and the Environment, [www.childenvironment.org](http://www.childenvironment.org)

Chicago Center for Green Technology,  
[www.cityofchicago.org/Environment/GreenTech/](http://www.cityofchicago.org/Environment/GreenTech/)

Energy Smart Schools, [www.energysmartschools.gov](http://www.energysmartschools.gov)

Environmental Recycling, Reuse and Renewal, [www.earth911.org](http://www.earth911.org)

Free Recycling-[www.freecycle.org](http://www.freecycle.org)

Green Building Council-[www.usgbc.org](http://www.usgbc.org)

Green Guide, [www.thegreenguide.com](http://www.thegreenguide.com)

Green Seal, [www.greenseal.org](http://www.greenseal.org)

Healthy Child, Healthy World, [www.healthychild.org](http://www.healthychild.org)

New American Dream-[www.newdream.org](http://www.newdream.org)

Twenty-Five Simple Steps to an Eco-Healthy Childcare, Oregon Environmental Council, [www.eoconline.org](http://www.eoconline.org)

### **REFERENCES**

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Conserve a Tree, [www.conservatree.org](http://www.conservatree.org)

“Green Checklist for Child Care Centers”, Children’s Learning Environments eNewsletter, Voll 111., No. 3, March 2004, [www.whitehutchinson.com/children](http://www.whitehutchinson.com/children)

“Make Your Space Green and Clean”, Yvonne Gando, [www.earlychildhoodnews.com](http://www.earlychildhoodnews.com)

“Pollution, Preservation & Ecology: Helping Young Children Learn About Renewable Resources”, Dr. Susan Bowers, [www.earlychildhoodnews.com](http://www.earlychildhoodnews.com)

The New American Dream, [www.newdream.org](http://www.newdream.org)

“What’s Toxic In Toyland”, Time, December 11, 2006, pp- 78-79.

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