

# Creating your Earth-friendly Early Childhood Program

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About me....



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## Agenda:

- Defining "Earth-friendly"
- Understand why environmental health is an issue of social justice and equity
- Identify common environmental concerns that impact young children
- Assess your program setting to identify possible areas to improve environmental health
- Identify tangible changes you can make

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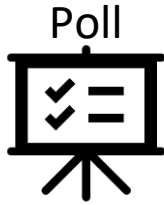
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All of those reasons are important! Here's more:

Children learn by doing: When we model Earth-friendly behaviors, they are likely to adopt those behaviors as well

Earth-friendly practices help children learn to care for the environment, leading to pro-environmental behaviors as they grow

Many Earth-friendly behaviors help children experience and understand *systems thinking*; an important concept (Stern, Yucel, Grossmann, and Vaish, 2021).

Preschool-aged children are sensitive to environmental and ecological harm and see it as a moral violation (Kahn et al 1995, 2002).

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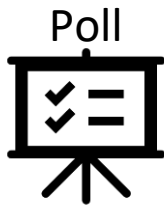
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Earth-friendly/Eco-friendly/Environmentally-friendly?

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What's the difference?

In general, they refer to *practices, approaches, and philosophies that have a positive or neutral effect on the environment, as opposed to those that have a harmful effect.*

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Consider:

-Does this practice have an impact on Earth's resources that is positive, neutral or negative?

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### Environmental Health and Equity

Creating an Earth-friendly program is a move toward equity:  
All children deserve the right to play outdoors and live in a healthy environment.  
We can honor this right by committing to Earth-friendly, justice-oriented practices.

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Climate change affects children most significantly

"The last 10 years were the hottest on record and the number of climate-related disasters has tripled in the last 30 years. These disasters have a disproportionate impact on the most vulnerable children and families-threatening food security, increasing water scarcity, forcing people from their homes, and increasing the risk of conflict and public health emergencies."

(United Nations Children's Fund, 2020)

Horizontal lines for notes

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United States Environmental Protection Agency

In defining environmental justice, the EPA states:

"No group of people should bear a disproportionate share of the negative environmental consequences resulting from industrial, governmental, and commercial operations and policies."

Horizontal lines for notes

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Environmental inequities

- Communities with higher rates of Black, Indigenous, and People of Color (BIPOC) tend to have higher rates of air pollution, water quality issues, and higher incidence of health effects from these and other environmental issues.
• Historically, environmentally damaging structures such as waste incinerators, factories, landfills have been sited in or near lower-income, more densely populated areas, along with highways, train and bus lines, which are associated with air pollution.

Horizontal lines for notes

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REFLECTION

What does environmental justice mean to you?  
How can early childhood programs and practitioners be mindful of environmental justice?  
What does this have to do with Earth-friendly practices?

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Earth-friendly practices can-and should-be inclusive and accessible to all

*Often nature-based or earth-friendly programs come with a higher tuition cost or other fees. Fancy outdoor gear, organic foods and wide open spaces to play are wonderful but these are simply not realistic options for all families.*

And yet—all children deserve nature, places to play, healthy food, a healthy environment in order to thrive.

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Earth-friendly choices can be inclusive and equitable

Start by learning more-there are resources throughout this presentation and in the handout.

Educate yourself about environmental issues in your community. Learn more about the people in your community.

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Questions to help guide your decision making

- In what ways does this practice honor the integrity and well-being of the children and families in my community –even those who don't look like me?
- Does this practice have an impact on Earth's resources that is positive or negative?
- Will it impact some people more than others? In what ways?
- Does this practice honor the integrity and well-being of the natural world?

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Common environmental concerns

- Children's environmental health
- Air quality
- Waste: Reduce/Reuse/Recycle
- Food

What Can I Do?

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Common environmental concerns:

- Indoor environmental health
- Environmental Health: *Elements that impact the overall quality of an indoor environment, specifically related to human health*

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Concerns about chemicals

- Some are harmful to wildlife and water quality
- Some persist in drinking water
- Some have been found in ocean water
- Some will accumulate in the fat cells of fish and other animals that people eat (bioaccumulation)
- Some have potentially (or known) harmful effects on children

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Terms to understand

**Body burden**-the cumulative effect of chemicals in the body

**Critical windows**-a period of time when a child's vulnerability to the effects of harmful chemicals is high. These fall during different times during childhood, but generally speaking, infancy-age seven is considered to be an extremely vulnerable time.

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How are children exposed to harmful chemicals?

**Ingestion**

**Absorption**

**Inhalation**

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### INGESTION

Putting hands in mouth after a freshly-wiped surface

Playing on/touching a carpet or floor that has residue from cleaners, pesticides, heavy metals



Image source: <https://www.pexels.com/photo/kids-playing-on-the-floor-8364641/>

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### ABSORPTION

Through the skin barrier:

Lotions, soaps, hand sanitizers, sunscreens, mosquito repellent



Image source: <https://www.pexels.com/photo/boy-with-sunscreen-on-his-face-8215117/>

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### INHALATION

Just what it says: breathing tiny particles

Fumes, scents, perfumes....

Aerosol containers also contain propellants: gases that help with application (they help to propel the droplets). Propellants make aerosols difficult to contain.



Image source: Minnesota Pollution Control Agency

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### Common chemical exposures in early childhood settings

- Drain cleaners
- Abrasive "scrubbing" cleaners
- Bleach
- Window cleaning fluid
- Carpet cleaners
- Laundry detergent
- Insecticide/germicide



Photo source:

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### How to reduce/avoid chemical exposure:

Do your research and READ LABELS!

Look for third-party certification on so-called "green" products

**Become a label reader**  
Look for signal words on labels and choose the least hazardous product.

Signal words	Hazard level
Caution	mild/moderate hazard
Warning	moderate hazard
Danger	extremely flammable, corrosive or highly toxic
Poison	highly toxic

Source: Minnesota Pollution Control Agency

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On the other hand...

Misleading Labels	Trustworthy Certifications

Source: Copythatco

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Greenwashing:

In the United States and Canada, 70% of consumers think it's important that products are eco-friendly or sustainable. <sup>1</sup>

But 98% of products advertised as "green" or "sustainable" are greenwashing—making deliberate claims to be "organic" "healthy" "eco-friendly"--but aren't <sup>2</sup>

<https://www.barrons.com/articles/two-thirds-of-north-americans-prefer-eco-friendly-brands-study-finds-51578661728>  
<https://www.ut.com/sustainability>

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### Air quality concerns

"Air pollution is one of the leading threats to child health, accounting for almost 1 in 10 deaths in children (worldwide) under five years of age." (WHO. 2018).



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### Air quality concerns

- Air pollution affects neurodevelopment, leading to lower cognitive test outcomes, negatively affecting mental and motor development.
- Air pollution is damaging children's lung function, even at lower levels of exposure
- Young children inhale more pollutants than adults, since they breathe more rapidly.
- Air pollution has been linked to increased rates of children's respiratory problems such as asthma, nervous system disorders and even cancer.

*World Health Organization, "More than 90% of the world's children breathe toxic air every day" (2018).*

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### Air Quality Issues are a global problem

Many people worldwide are disproportionately affected by poor air quality.

In low- and middle-income countries around the world, 98% of all children under 5 are exposed to 2.5 levels above WHO air quality guidelines. In comparison, in high-income countries, 52% of children under 5 are exposed to levels above WHO air quality guidelines. (World Health Organization, 2018).

Many schools and playgrounds, particularly those in urban areas or communities with lower income rates overall, are located near major sources of air pollution: busy roads, factories, power plants.

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What is air pollution, anyway?

Gases (like carbon monoxide, produced by the burning of fossil fuels).

Solid or liquid particles suspended in the air (dust, soot, smoke, volcanic ash)

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Pollutants come from "natural sources" or "human-made"



These include:  
Volcanoes, wildfires,  
domestic livestock, even  
pollen



These include: fossil fuel  
production/combustion,  
smog (particulate matter  
and gas)

Photo source: earthobservatory.nasa.gov  
Photo source: Natural Resources Defense Council

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Two main types of air pollution:

-ambient (outdoor) air pollution (from fossil fuel production mainly, but also fires)

-household (indoor) air pollution (from combustibles in the home, natural gas, particulate matter, chemical use)

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**In early childhood settings**

-Indoor air may be more polluted than outdoor air! This is due to the relatively small volume of air in closed quarters, accumulated fumes, particles, and vapors in the air. Inoperable windows contribute to the problem because they reduce air circulation.

Common pollutants in early childhood settings include:

- Mold
- Mildew
- Animal fur
- Dust
- Cigarette smoke and smoke residue
- Volatile organic compounds (offgassing—that smell from fresh paint, new furniture)

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**Improving air quality in early childhood settings**

Know and understand how to use your community's Air Quality Index (AQI)—it measures 5 common air pollutants and rates air quality. (Google: Air Quality Index)

Reduce children's exposure to chemicals when and where you can

Improve air circulation: air filters and ventilation

Be sure your site is free of mold, mildew, cigarette smoke/residue

Learn more about air quality and track your own community's air quality at [www.airnow.gov](http://www.airnow.gov)

Reduce vehicle idling

Air Quality Index		
AQI Category and Color	Index Range	Description of Air Quality
Good	0 to 50	Air quality is satisfactory, and air pollution poses little or no risk.
Moderate	51 to 100	Air quality is acceptable. However, there may be a risk for some people, particularly those who are unusually sensitive to air pollution.
Unhealthy for Sensitive Groups	101 to 150	Members of sensitive groups may experience health effects. The general public is not likely to be affected.
Unhealthy	151 to 200	Everyone may begin to experience health effects; members of sensitive groups may experience more serious health effects.
Very Unhealthy	201 to 300	Health warnings of emergency conditions. The general public is advised to avoid all outdoor activities.
Hazardous	301 to 500	Health warnings of emergency conditions. Everyone is advised to avoid all outdoor activities.

Image source: [www.epa.gov](http://www.epa.gov)

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**REFLECTION**

*What's one thing you can do to improve the environmental health of your program*

*What's one thing you can try?*

*What do you want to learn more about?*

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### Waste reduction

28% of all solid waste in the US is product packaging

Only about 38% of recyclable materials are actually recycled. The rest goes to landfills, waste incinerators, or is shipped to other countries. (EPA n.d)

Image source: Pixabay p. - Own work



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### Waste reduction

Waste is a big issue! It's unavoidable but there are things we can do to reduce waste, and make consumer choices with a lower impact on the environment.

Remember, there is no "away..."

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### Waste Reduction and Environmentally Preferable Purchasing

If you have the choice between two products: the preferable choice is the one that has the least impact on human health and the environment. When thinking about this, here are some factors to consider:

- Signal words and ingredients
- Impact of this product on people's health and well-being
- Factors that led to the product's creation and brought it to the market (product life cycle)

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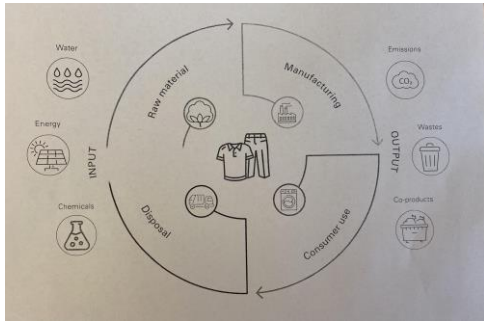
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**What's left out:**

- Emissions from shipping and delivery of goods
- Resource extraction to obtain materials to produce goods: clear-cutting, use of fossil fuels, habitat destruction
- Living and working conditions of the people involved in the production of goods
- Where does it go in the end?

You can find out more about life-cycle analysis at [www.lifecycleinitiative.org](http://www.lifecycleinitiative.org)  
 Or [www.footprintnetwork.org](http://www.footprintnetwork.org)

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**"Reduce, reuse, recycle"**

These are listed in order of impact!

The single most important thing we can do is *reduce* our consumption of goods. This has the biggest impact.

Next is reusing.

Finally is recycling.

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Did you know:

Researchers have found that among so-called "green" actions, reducing consumption has not only the biggest environmental impact, but it has a greater personal impact as well. Those who actively reduce consumption report a sense of well-being, security, and a feeling of agency.

*(University of Arizona, 2019)*



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REFLECTION

*What's one thing you can do to reduce waste in your program?*

*What's one thing you can try?*

*What do you want to learn more about?*

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Earth-friendly eating



Image source: earth.com

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Processed foods:

- Quick and easy
- Appeal to many palates: high in sugars, sodium and fats
- Many are high in preservatives
- Absorbed quickly into the bloodstream



Once those calories are burned children tend to get hungry again (or jittery, or cranky)

Young children who consume lots of processed foods are more prone to poor health outcomes such as high blood sugar, diabetes, obesity, digestive disorders. These can have long-term impacts.

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Earth-friendly foods:

- Whole grains
- Fresh fruits and vegetables
- High in vitamins and minerals
- Take longer to digest, so children are less prone to mood swings associated with blood sugar spike

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Other considerations:  
 How did my food get to my plate?

How does this process affect the planet?  
 How does it affect the people involved?




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Mull, Srida & Kashner, Sell & Jurdak, Raga. (2018). ProductChain: Scalable Blockchain Framework to Support Provenance in Supply Chains. 1-10. 10.1109/NCA.2018.8548222

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### Sourcing healthier foods



Image source: aliqa neumiller - stock.adobe.com

- Organic (or "near-organic")
- Farmers markets
- Locally grown
- Consider joining a CSA (Community supported agriculture) program

These options give children access to high quality, healthier foods and may help you make connections in your community. They allow you to support local farmers or other food producers.

To learn more about Community supported agriculture, visit the United States Department of Agriculture website: [www.usda.gov](http://www.usda.gov)

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### REFLECTION

*What's one thing you can do to improve access to high-quality food in your program?*

*What's one thing you can try?*

*What do you want to learn more about?*

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### So *What?* How does knowing all of this help my program to be more Earth-friendly?

- You are helping support the development of pro-environment attitudes, which helps children feel good about their choices
- Environmental education promotes awareness, enjoyment, and action on behalf of the natural world
- Implementing and modeling earth-friendly choices helps to normalize environmental behaviors
- You are increasing opportunities and access for young children, providing healthy options and supporting their right to a healthy environment in which to live and thrive

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Other earth-friendly actions you can take:

**Incorporate nature however you can!** Make time every day to go outdoors with children—even in densely populated, urban areas there is nature!

We know that strong positive feelings about the natural world, when nurtured in early childhood, can lead to pro-environment behaviors later in life (*Kuo, Barnes, and Jordan, 2019*).

Time in nature decreases stress and anxiety, increases in creativity and problem-solving (*Moore, 2014*) and developing social skills through play.

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Earth-friendly education

There are plenty of developmentally appropriate ways to incorporate environmental education in the early childhood setting.

Consider the important role of modeling pro-environment actions, learning in, with, and from nature, spending time with animals, and learning about the environment.

**Help children see themselves as agents of change.** A key factor in helping children feel empowered is to *act together with others*. This is one reason why being part of an earth-friendly class community can have such a positive impact: They know that they are part of a community of children and adults who care about the Earth and are doing lots of things to take care of it.

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Self-assessment-Earth friendly steps that have a big impact:

-Learn together about environmental issues and the communities most affected by them

-Commit to honoring every child's right to clean air and water, space to play, and freedom to grow up healthy: what does that look like in your program?

-Reduce consumption

-Review this presentation with colleagues and choose one action from each topic area—Just start with one thing!

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REFLECTION: Now what?

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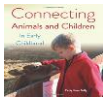
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