



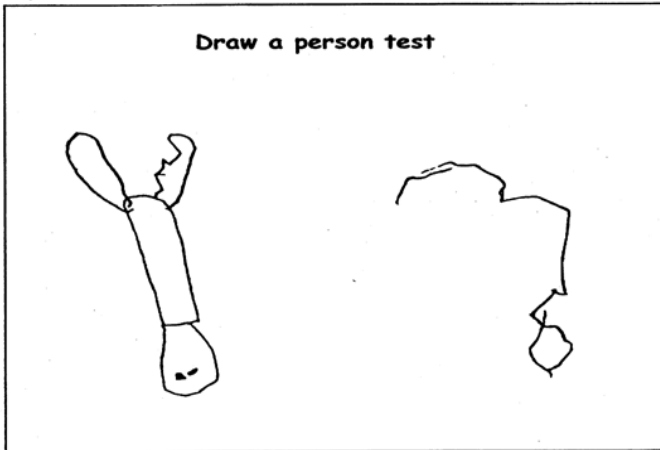
# Kick the Pesticide Habit:

## Children, Learning and Poisons Don't Mix

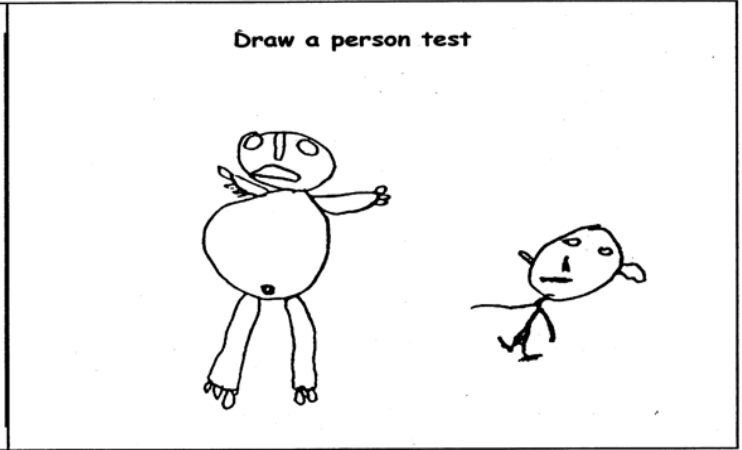
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5 year olds with sustained pesticide exposures



5 year olds without sustained exposures\*



\* More heavily pesticide-exposed children in this comparative study had decreases in stamina, gross and fine eye-hand coordination, 30-minute memory, the ability to draw a person, and increases in aggressiveness. (Guillette, et.al., *An Anthropological Approach to the Evaluation of Preschool Children Exposed to Pesticides in Mexico*, *Environmental Health Perspectives*, Vol. 106, No. 6, June, 1998). Drawings courtesy of Elizabeth Guillette. No pesticides have been tested for safety on children.

### PESTICIDES ARE POISONS

Pesticides are poisons that are designed to kill or repel unwanted insects (insecticides), rodents (rodenticides), weeds (herbicides), plant diseases (fungicides), and germs (disinfectants). They come in various forms, such as aerosol and liquid sprays, pellets, dusts, gels, pastes, and bait stations. Pesticide exposure occurs through inhaling the pesticide, absorbing it through the skin, and/or ingesting it. Short-term exposure can cause dizziness, fatigue, nausea, headaches, rashes, vomiting, and flu-like symptoms. Chronic exposure may permanently damage organ systems. Children should never use pesticides, herbicides, or disinfectants, at home or at school.

### CHILDREN ARE MORE VULNERABLE TO PESTICIDES

Due to developmental and behavioral characteristics, children are especially vulnerable to pesticide exposure. Children proportionately eat, drink, and breathe more per pound of body weight than adults. They have developing organ systems that cannot excrete or detoxify poisons as adults do. Children play and sit on the floor where pesticides have been applied to baseboards or crevices and engage in frequent hand-to-mouth behaviors, increasing the potential for pesticide exposure. In addition, children may not recognize or be able to avoid harmful substances.

Published studies show that toxic exposure in childhood can lead to various health and learning problems, such as cancer, central nervous system damage, asthma, attention deficit hyperactivity disorder, and learning disabilities. Yet the majority of pesticides available to consumers are not tested for their impact on children.

### When to Suspect a Problem

- Your child starts most days healthy but develops health problems during the school day.
- Your child comes home from school sick, tired, itchy, angry, or rashy.
- Your child uses more asthma medications on school days.
- Your child shows new or worsening health or learning problems on school days.
- Your child comes home with odd odors clinging to his/her clothing.

If you suspect a pesticide incident, get help. If you believe you or your child has pesticide intoxication or poisoning, go to the Emergency Room or call Poison Control. Acute or chronic pesticide exposures can cause a lifetime of health and learning problems.

## PESTICIDES COMMONLY USED INSIDE AND OUTSIDE SCHOOLS

Mice, cockroaches, spiders, ants, and termites are often found in schools because schools provide the food, water, or shelter that these pests need to survive. Holes and cracks in the school buildings' walls, roof, and foundation are common entryways for pests. Weeds, poison ivy, plant diseases, and insects are also found on school playgrounds, lawns, and athletic fields. Managing these pests is important to protecting children. However, all too often, toxic pesticides are over-used.

Pesticides are frequently applied throughout school buildings and grounds, and in nearby agriculture. Pesticide residues can remain in the air, settle on playing surfaces, and collect on toys, cushions, desks, and books, potentially exposing children to these chemicals. Many pesticides are designed to persist, lingering in the air or on the ground for days or weeks after being applied.

Pesticides do not stop pests from coming back to the source of food, water, or shelter the school is providing. Therefore, pesticides must be applied again and again. The use of pesticides to stop pests is only a temporary solution, as pesticides tend to only address symptoms of a larger problem. Simply eliminating pests' sources of food, water, and/or shelter needed to survive will substantially reduce and ultimately eliminate pests from the school environment.

Outside, schools often use herbicides to kill weeds — weeds are just plants in the wrong place — on playgrounds, in fields, around foundations, and under fence lines. Herbicides kill weeds temporarily, then they return.



### SAFER SOLUTIONS ARE SIMPLE ... AND ... SAVE MONEY

Toxic chemicals are unnecessary and should never be used in a child's learning environment. Alternative approaches to managing pest problems are highly effective and simple to implement, and do not rely on the use of toxic pesticides. Such an approach, often called Integrated Pest Management (IPM), is based on keeping school facilities in good repair and turf soil healthy, using proper sanitation strategies, and taking the necessary steps to prevent pest problems in the first place. It is an old-fashioned, "back to basics" approach of primary prevention.

Proper maintenance of a school will seal out pests from the building. Sticky traps are excellent tools to help identify pests and determine their entryways. Once entryways are found, they can be sealed to keep pests out of the building. Fixing leaky faucets and pipes will also decrease the likelihood of attracting pests and allowing them entry.

If pests continue to be a problem after using such techniques, then only the least-toxic pesticide should be used. Even *how* the pesticide is applied is important in decreasing exposure. Pesticide baits and gels tend to have lower volatility and are better choices than pesticide sprays. Aerosol and liquid sprays can drift, or move off the application site, therefore posing the greatest risk to children. They are also the least effective way to manage pests problems over the long term.

Schools can control the pests by using preventive and non-chemical pest-management strategies. This will save money in the long run with permanent building improvements, elimination of unnecessary chemical use, and energy efficiency. Be wary. Just because a company or school says it is using an IPM program, doesn't always mean it is following a protocol of least toxic pesticides as a last resort. Use the SIMPLE STEPS, IPM, and POLICY boxes on the following pages to check up on your school.

Thousands of schools around the country are successfully using safer pest-management strategies that do not rely on toxic pesticides. Whether a large school district or an individual school, there are a growing number of national, state, and local resources available to help schools convert their pest-management programs.

### Simple Steps to Reducing Pests at School

- Place sticky traps in areas where there is a potential for pests; check them regularly.
- Seal cracks and holes in buildings with caulk and screen patches.
- Keep storage items on shelves and off the floor.
- Regularly clean drains.
- Repair leaky faucets and pipes quickly.
- Install door sweeps under exterior doors.
- Limit areas for food storage and eating, and clean them daily.
- Empty trash daily and keep outdoor trash dumpsters away from school buildings.
- Keep vegetation and wood mulch one foot away from buildings.
- Aerate turf areas at least annually.
- Mow turf grass high to shade out weeds.
- Clean out lockers and desks regularly.

## LAWS GOVERNING SCHOOL PESTICIDE USE

**Federal Law:** Pesticides are regulated by the *Federal Insecticide, Fungicide, and Rodenticide Act* (FIFRA), which states that all pesticides must be registered with the U.S. Environmental Protection Agency (US EPA) for sale and use; all pesticide containers or other devices used for application must be properly labeled; and the pesticide must be used in accordance with the label.

**State Laws:** Due to the lack of federal laws on pesticide uses at schools, a number of states have passed laws to help protect children and staff. At the time of writing (2011), 16 states require and 6 states recommend that schools adopt IPM programs; 20 states have restrictions on pesticide applications; 25 states have prior notification of pesticide use requirements; 18 states require posting notification signs for indoor applications; and 28 states require posting notification signs for outdoor applications. Although several states have components that are exemplary, according to Beyond Pesticides, there is not one state law that is completely comprehensive.

### WHAT YOU CAN DO

**Get the Facts:** Identify the state and local laws and policies regarding school pesticide use. Ask your school board, superintendent, principal, or facility director about their current pest-management practices, then request a school tour. Ask teachers and support staff who work in the school when and where pesticides are applied. Check for school pesticide/pest-management manuals or regulations that may guide schools on implementation.

**Investigate:** Find out whether the state and local policies are being followed. Ask the school facility director about recent pest problems and how they were solved. Request that the school give you a list of the pesticides that are used or may be used in the school buildings and on school grounds. If your request for information is refused, ask for the district's Right-to-Know or Freedom of Information Act representative.

**Find Others to Work With:** Find other parents, community members/taxpayers, school personnel, and students who are concerned as well. The more voices, the more likely your concerns will be addressed. Educate yourself and others about pesticide hazards and risks and their alternatives.

**Put Your Request in Writing:** Identify what exactly you want the school to do and distribute your request in writing to the school board and other school staff responsible for pest-management decisions. Attach information about pesticide hazards and always ask for a response in writing. If you are invited to meet with a school official, go with another concerned individual, take notes, and follow up in writing.

**Get Public Attention:** Request to speak at a school board meeting. Create a news item for the local press that talks about pesticide hazards and gives the names of the products the school uses. Circulate a petition asking the school to stop its use of pesticides.

**Ask for a Written Policy:** Work to get your school to adopt a written policy that protects kids from pesticides. Some schools may already carry out a pesticide-reduction program, but it is not in writing. The best way to keep a good program in place is to have the local board of education adopt the program as a local policy.

**Don't Take "No" For An Answer:** Be persistent and don't give up. Changing people's mindset can take time. Educating others on pesticide hazards and effective alternatives is crucial. Keep your cool and avoid being argumentative.

**Help Your School Do a Better Job—Say THANK YOU!** You can play an important role in actively supporting and helping to enforce the policy and the staff that carry out the work. Be sure to tell your school "Thank You" when it is doing a good job, and tell your local paper as well. Everyone likes a pat on the back!

### Integrated Pest Management (IPM)

IPM utilizes pest-prevention and -management strategies that exclude pests from school facilities through:

- habitat modification
- entryway closures
- structural repairs
- sanitation practices
- natural organic management of playing fields and landscapes
- other non-chemical, mechanical, and biological methods
- and the use of least-toxic pesticides only as a last resort.

*BeyondPesticides.org*

## RESOURCES

**Beyond Pesticides** [www.beyondpesticides.org](http://www.beyondpesticides.org); 202-543-5450; [info@beyondpesticides.org](mailto:info@beyondpesticides.org)  
Information on federal and state laws, local policies, safer pest management strategies, database of studies on pesticides and health problems, pesticide factsheets.

**IPM Institute of North America** [www.ipminstitute.org/schools](http://www.ipminstitute.org/schools); 608-232-1410; [info@ipminstitute.org](mailto:info@ipminstitute.org)  
Detailed technical information on implementing school IPM on the local level.

**Pesticide Action Network North America** [www.panna.org](http://www.panna.org) and [www.pesticideinfo.org](http://www.pesticideinfo.org); 415-981-1771  
Detailed information on pesticides.

**U.S. Environmental Protection Agency** [www.epa.gov/pesticides](http://www.epa.gov/pesticides) and [www.epa.gov/schools](http://www.epa.gov/schools)

## NOTES

### Written Policies Should:

- Establish a tiered approach to managing pests that focuses on non-chemical prevention tactics and control strategies and the use of the least-toxic pesticide only as a last resort
- Prohibit the use of pesticides that cause cancer and other serious health disorders
- Require notification of parents and personnel well in advance of pesticide applications, and,
- Require posting notification signs along the pesticide application areas that specify re-entry times.

The Healthy Schools/ Healthy Kids Clearinghouse was created in 1996 to deliver *simple, technically accurate, widely-supported* and *consistent* directions to parents and others in the school community on how to improve schools and children's health.

The Clearinghouse was honored to receive a  
2005 US EPA Office of Children's Health Protection Recognition Award.



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