



# Children, Learning, and Poisons

## Don't Mix: Kick The Pesticide Habit

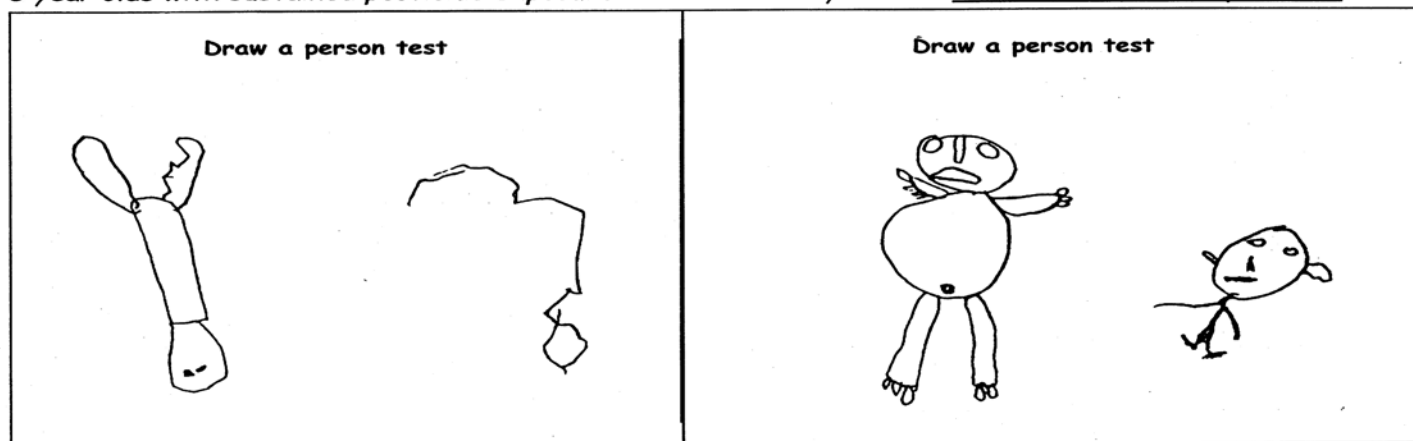
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5 year olds with sustained pesticide exposures

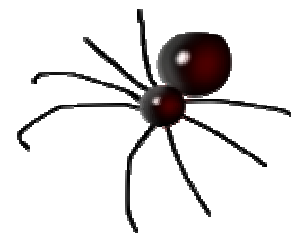
5 year olds without sustained exposures\*



\* 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.

### What Are Pests?

Pests are plants and animals in the wrong place at the wrong time. Pests can include: flies, spiders, mice, rats, termites, cockroaches, silverfish, head lice, poison ivy, molds, fungi, bacteria, and viruses. Like all plants and animals pests need food, water, and shelter to survive. Using pesticides to stop pests is only an expensive and temporary solution



### What Are Pesticides?

Pesticides are poisons that are designed to kill or repel insects, rodents, weeds, plant disease, and germs. They can be applied to all buildings and grounds and in agriculture. Pesticides do not stop pests from coming back, therefore they must be reapplied again and again. Multiple applications have allowed some pests to adapt to the pesticides, creating pest strains that are resistant to toxic chemicals.

### Why Are Pests In Schools?

Schools often provide food, water, and shelter to pests. Holes in walls and roofs, or cracks in windows, foundations, and walls let pests in. Leaks, old plumbing, dirty trash areas, food left in lockers cafeterias, classrooms, and plants and animals in classrooms all contribute to pest infestation. Minor building repairs and healthier practices are keys to eliminating pests and pesticides.

\* No one is required to use pesticides. The routine use of toxic pesticides is a bad habit and a sign of weak administration, poor facility conditions, or outdated buildings 1 and grounds management practices.





## How Are Children Exposed to Pesticides at School?



Pesticides may be freshly applied or misapplied while school is in session, or in the evening, or on the weekends. Pesticides also may be used in nearby or

adjacent agricultural areas. Pesticides leave residues; some residues remain in the air, settle on surfaces, and tend to collect more on plush toys, vinyl, foam cushions, and pillows even two weeks after spraying. There are three ways children can be exposed:

1. Inhalation- Children can come in contact with pesticide vapors, fumes, or dust which can be inhaled into their lungs, or can be absorbed into the bloodstream carrying the chemicals to other organs of the body.
2. Skin Contact- Children often sit on the floor where pesticides have been applied to baseboards or crevices. Some carpets, toys, and furniture retain high levels of pesticide. Pesticide residues can be absorbed through the skin and into the bloodstream.
3. Ingestion- Children can be exposed to pesticides due to their frequent hand to mouth activity. Pesticides can be ingested from residues collected on their hands or by accidentally eating a pesticide in pellet or bait form.

### Exposures

- \* Can either be acute (high level and short term) or chronic (low level and long term).
- \* Can cause dizziness, nausea, headaches, rashes, or flu symptoms, and in the long term may permanently damage organ systems.
- \* Pesticide Intoxication- Headaches, fatigue, light headedness, dizziness, nausea, and vomiting associated with exposure to pesticides.
- \* Pesticide Poisoning- Disturbance of function, damage to structure, or illness in humans resulting from inhalation, absorption, ingestion, or contact with any pesticide.

### Warning

If you suspect pesticide residues, vapors, or spills, leave the area immediately and get help. If you believe your child has pesticide intoxication or poisoning go to the Emergency Room or call Poison Control.

### Children's Health and Pesticides

- \* Children are not just little adults.
- \* They breathe more air per pound of body weight than adults, and they proportionally drink more water, and eat more than adults.
- \* Children may not recognize or be able to avoid harmful toxic substances.
- \* They play or sit on the floor and engage in hand to mouth behaviors that leave them vulnerable.
- \* Children also have developing organ systems that cannot excrete or detoxify poisons as adults do.
- \* Toxic exposures in childhood can lead to a lifetime of health or learning problems.

Some pesticides can cause several types of cancer, central nervous system damage, or respiratory illness. Some new research suggests a link between pesticide exposure and autism, leukemia, and childhood brain cancer.

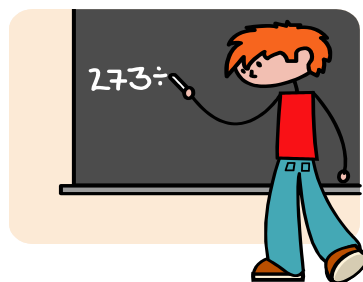


## Integrated Pest Management (IPM) In Schools

Integrated pest management (IPM) is an environmentally sensitive approach to pest management and it is the safer way to control pests. IPM is a method of buildings and grounds maintenance that first keeps pests out of buildings. Sticky traps are often used to find the exact kinds of pests in a building. This identification and monitoring of pests allows schools to make appropriate pest control decisions. If pests cannot be kept under control, IPM programs then use the least-hazardous pesticides available. The result of a quality IPM program is the reduction of the most poisonous products. IPM programs also result in lower costs due to building improvements and lower risks.

### Signs of a Good IPM Program

- \* The problem or pest is identified before taking action.
- \* Vegetation, shrubs, and wood mulch is kept away from the building.
- \* Garbage cans and dumpsters are cleaned regularly.
- \* Custodians have caulk guns and screen patching (or have these items readily available).
- \* Sticky traps are set and checked regularly by school personnel.
- \* Cracks in walls or pavement are sealed.
- \* Food is stored and eaten only in certain limited areas.
- \* The school district has a written policy on pesticides that can cause cancer and other serious disorders.
- \* The school board has adopted a district "least-toxic" pest management policy that discourages pests, then minimizes or eliminates the use of toxic chemicals.
- \* The school notifies parents and personnel in advance of pesticide applications and post signs in treated areas.



## Getting Schools to Kick The Pesticide Habit

**Step 1: Get the facts-** Know your state/city laws, then ask your school board, superintendent, principal, or facility director about the current pest management practices in the district. Ask teachers and support staff who work in the building when and where pesticides are applied. What elected officials believe to be true is not always what happens in actual day to day practice.

**Step 2: Investigate-** Ask your school facility director to show you the regular maintenance supplies that keep pests out of the building and off school grounds. If you verify that your school has a "least toxic" or nontoxic pest management program using natural barriers and other preventative steps **say thank you**.



### Never Take "No" For An Answer

What can you do if your school refuses to answer your questions, or continues to use toxic pesticides? Some parents and communities have successfully overturned that kind of outdated thinking. So can you!

- \* **Do it yourself:** If you still use pesticides at home, stop.
- \* **Work with the facts:** Check state/local laws and the local board of education policy manual, then request a school tour. Ask adults who work in the building about pests and pesticide uses.
- \* **Never work alone:** Find one or two other parents, community members/taxpayers, school personnel, or students who agree with you and are willing to help.
- \* **Find a group or create a group:** If the local PTA or other school based groups are unable to help, start your own group. Use the group name/letterhead whenever you contact the school. Make sure everyone in the group agrees on what to say and when to say it. Keep copies of all letters and responses.
- \* **Establish a track record:** Your group should ask to tour the school with the principal or facility director. Ask to see the pesticide application records. If you are refused, ask for the District's Right to Know or Freedom of Information Act representatives.
- \* **Offer to speak to the school board**
- \* **Put your request for eliminating pesticides in writing:** 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 group member, take notes, and follow up in writing. If two or three people will speak in support of your cause ask the school board to hold a public meeting on school pesticide use.
- \* **Suggest your school officials call the Healthy Schools Network, the State Education Department, or the State Office of General Services for advice on how to get started.**
- \* **Get public attention:** Create a news item for the local press that talks about pesticide hazards and give the name of the products your school uses. Circulate a petition asking the school to stop its use of pesticides.
- \* **Ask for a new policy to protect kids from pesticides:** Some schools are carrying out a pesticide reduction/elimination program, but it isn't in writing anywhere. The best way to keep a good program in place is to have the local board of education adopt the program as local policy.

## The Law

### Federal Law:

The Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) states:

- \* All pesticides must be registered with the US Environmental Protection Agency for sale and use.
- \* All pesticide containers, or other devices used for application should be labeled. The label must be placed so it can be read and understood.
- \* The label must contain: the pesticide registration number and what it is used for, a list of active ingredients, directions for use, methods of application, a description of where the pesticide can or cannot go, warning or caution statement, treatment options for poisoning, whether or not personal protection equipment is necessary for the application, ventilation requirements, protections of food, pets, etc., period of time for reentry after application, potential environmental hazards, and storage and disposal requirements.
- \* Pesticides must be used in accordance with the label.

*For more information about pesticide*

*legislation in your state visit:*

[www.beyondpesticides.org/states/index.htm](http://www.beyondpesticides.org/states/index.htm)



### Sample

#### New York State Law:

- \* All pesticides must be registered with both federal and state agencies.
- \* Commercial/restricted use pesticide applicators must be certified and hold a valid certification card.
- \* A copy of the label of each pesticide must be available at the facility where it is being used and must be accessible to anyone who asks for it.
- \* If a contractor is maintaining the grounds the contract with the school must list which active ingredients (chemicals) are being used, and describe any warnings on the labels that are relevant to the protection of humans, wildlife, or the environment.
- \* Contractors must place markers within or along the perimeter of the area where pesticides will be applied, visibly post on the grounds four-by 5-inch signs for a 24 hour period after application warning that pesticides were used.
- \* School employees do not have to post signs unless the grounds on which pesticides have been applied are within a park or within 100 feet of any building.

*The School Pesticide Notification Law of 2000. At the beginning of every school year schools must:*

- \* Give a written notice to all parents, guardians, and staff that pesticide applications may take place at the school.
- \* The school must give instructions on how to register with the school to get a 48-hour notice of the applications and the name of the school representative to contact.
- \* Send a written notice to all individuals on the registry at least 48-hours prior to the application of the pesticide.
- \* Provide staff and parents with a written summary of the pesticide applications three times during the school year.



## Additional Resources



Pesticide (Trade Name)	Target Pests	Potential Health Effects
Chlorpyrifos	Insecticide: ants, cockroaches, fleas, termites, mosquitoes	Headaches, nausea, dizziness, abdominal cramps, persistent weight loss, vision problems, toxic psychosis, convulsions
MCPP (mecoprop)	Herbicide: broadleaf weeds; e.g. clover and dandelions	Skin irritation, vomiting, unconsciousness, coughing, dizziness, sensory and behavioral disturbances, spasms, sweating
Dicamba	Herbicide: broadleaf weeds	Skin irritation, vomiting, unconsciousness, coughing, dizziness, sensory and behavioral disturbances, spasms, sweating
Bendiocarb (Ficam)	Insecticide: ants, fleas, silverfish, crickets, ticks, cockroaches	Diarrhea, muscle weakness, dizziness, headache, blurred vision, sensory and behavioral disturbances, spasms, sweating
Acephate (Orthene)	Insecticide: ants, cockroaches	Headache, flu-like symptoms, possible human carcinogen, reproductive effects, interferes with nerve impulse transmission
Cypermethrin (Demon)	Insecticide: ants, cockroaches	Allergic dermatitis, flu-like symptoms
2,4-D	Herbicide: broadleaf weeds	Vomiting, diarrhea, anorexia, ulcers of the mouth and pharynx, damage to liver, kidneys, and central nervous system
Piperonyl butoxide	(Synergist included to enhance "active" ingredients)	May enhance toxic hazard of insecticides to humans, oncogen

### National Resources

*US Environmental Protection Agency Office of Pesticide Programs: [www.epa.gov/pesticides](http://www.epa.gov/pesticides)*

*Recognition and Management of Pesticide Poisonings: <http://www.epa.gov/pesticides/safety/healthcare/handbook/handbook.htm>*

*The IPM Institute of North America: [www.ipminstitute.org](http://www.ipminstitute.org)*

*Pan North America Pesticide Action Network: [www.panna.org](http://www.panna.org)*

*Beyond Pesticides; National Coalition Against the Misuse of Pesticides: [www.beyondpesticides.org](http://www.beyondpesticides.org)*

*School IPM: [www.schoolipm.ifas.ufl.edu](http://www.schoolipm.ifas.ufl.edu)*

*The National Institute of Environmental Health Sciences: [www.niehs.nih.gov](http://www.niehs.nih.gov)*

*Pediatric Environmental Health Specialty Units: [www.aoec.org/PEHSU.htm](http://www.aoec.org/PEHSU.htm)*

*Tox Town: [www.toxtown.org](http://www.toxtown.org)*

*Healthy Schools Network, Inc.*

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