



Integrated Pest Management

A curriculum module for high school science classes
from Toxic Free NC, www.ToxicFreeNC.org

Environmental Exposure Demonstration

The following demonstration is credited to Michele Kloda, who was an Environmental Educator with UNC-Chapel Hill's Environmental Resource Program at the time of development.

It takes only a few minutes, and demonstrates in a striking visual way how exposure to environmental contaminants affects small children differently than adults.

Supplies:

2 glass vases, jars, or transparent containers for water. One must be significantly smaller than the other.
2 clothes pins
2 pictures (from photos or magazines), one of a small child's face, one of an adult's face
4 drops of food coloring
water

Preparation:

Tape one picture to each popsicle stick. Attach the picture of the small child to the smaller vase or jar, and the picture of the adult to the larger vase or jar.
Fill both containers with water.

Demonstration:

Invite a volunteer from the class to put two drops of "toxic chemical" (actually food coloring) into each vase or jar of water – no more, no less.

Wait a moment while the food coloring disperses in the water. While you are waiting, you can talk to the students about environmental exposures – what some common environmental contaminants are, how they get into our bodies, or special ways they can get into children's bodies in particular (for more information about these subjects, see the factsheet "Kids and Pesticides," available at:

<http://www.pested.org/informed/factsheets.html>)

Once the food coloring has dispersed, it should be obviously darker in the small vase, implying a higher concentration of the "contaminant" in the child's body than in the adult's body.

Explain that because children are smaller, and breathe faster, and drink more and eat more per pound of body weight, exposure to the same level of an environmental contaminant results in a higher load of that chemical in a child's body than an adult's. This is why special care must be taken to keep pollutants out of environments where children spend time, such as homes, childcare centers, and schools.