



Integrated Pest Management

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

Entrée: Pests and Pest Control in Local Institutions

Guiding questions:

1. What are the most common pest problems at certain community institutions? Why are those institutions particularly at risk for those pests? What risks do the pests pose to those institutions?
2. Who makes decisions about pest control measures? When and how are these measures decided?
3. Do you think the methods of pest control used are the most appropriate? Why or why not?
4. Which institutions in the community use Integrated Pest Management and which do not?
5. What's an effective way to write a letter of inquiry to somebody in business or the government to ensure a thoughtful response?

Learning Goals:

1. To apply understanding of IPM to a particular context.
2. To analyze a particular pest problem and decide on the most appropriate pest control response.
3. To communicate information and arguments based on information to an appropriate audience.
4. To collaborate on and present a PowerPoint presentation.

Length:

5-7 class periods

Activity Descriptions:

I. Initial Inquiry (2-3 class periods)

- Teacher assigns each group of 3-4 students an institution in the local community to research, or allows groups to choose from a menu. It is recommended that the teacher make a few phone calls in preparation for this activity to find best contacts for these institutions, and provide them to the student groups. Students may have personal ties to a particular place that would make research easier there, and they should feel free to use those.

Here are some suggested types of community institutions that students might research:

- childcare center
- restaurant
- grocery store
- church

- park and/or athletic field
 - apartment building
 - animal hospital, shelter, or kennel
 - retirement community
 - hospital or doctor's office
 - office building
 - zoo
 - shopping mall
- Each student in the group takes on a different role in the research project. The “place” student is the liaison to the pest control decision maker at the community institution the group has chosen to research. With help from the rest of the group, this student should generate a list of questions to ask, and then conduct an interview with that pest control decision maker, either in person or over the phone. See tips for phone interviews. Note: The research work of the other 2-3 students in the group depends, to some extent, on information about pest problems and pesticide use obtained during this interview. This student should be particularly conscientious, and in case the first contact doesn't work out, should have a few back up contacts to try.
 - The “pest” student researches the anatomy, life cycle, and population biology of a particular species of pest that is problematic in the group's chosen institution, its role in a natural ecosystem, and the circumstances under which it becomes a pest. The teacher should help students to choose pest species so that there is not too much overlap within the class.
 - The “pesticide” student researches a product that is commonly used to control the problem pest in the group's chosen institution, if pesticides are used. The student can look into the chemical class, structure & properties of the chemical, its history and common uses, regulations governing its use, and possible alternatives to use of this chemical. If pesticides are not used to control the pest at the community institution, the student should look into a pesticide commonly used to control this pest elsewhere - what products are at the hardware store, or recommended by cooperative extension?

In some cases, the class will need to work on another project in class while conducting individual research on these topics.

II. Analyzing and Sharing Data (3-4 class periods)

- Students integrate data gathered to answer the following questions: What is the institution’s response to this particular pest problem? What are the risks and benefits of this response? Is it the best response given the situation? What other responses would the students suggest?
- Together, students create power point presentation to share with the class, showing findings from their research and their conclusions.
- Students follow up with institution contact to thank them and, where appropriate, offer information and suggestions about improvements to their pest control program. See Desserts: Community Activism Action Plan.