



Institute of Food and Agricultural Sciences
Entomology and Nematology Department

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Bugs: Harmful or Helpful?

Dear Pest Management Professional,

Thank you for volunteering your time to fuel the spark of science education in your community. The Bugs: Harmful or Helpful material was developed through a partnership between the UF/IFAS Florida School IPM Program and the Florida Pest Management Association. The funding for the materials was provided in an educational outreach grant through the Entomological Foundation. Please feel free to use this material to speak in classrooms, to 4-H groups, to boy and girl scouts, at fairs, at museums, at Earth Day functions, etc.

Your FPMA region educational kit includes a PowerPoint presentation (also available at <http://flpma.org>), a written script with interactive questions for the students, a pre/post test, a participant survey, a sample permission slip, a list of teacher resources, insect models (to be reused for each presentation), School IPM brochures, a classroom poster and coloring book (one per class – five per district), FPMA student coloring books (one per child – 70 per kit), and stickers (one per child). There is a list of detailed instructions included in this kit as well.

Important Instructions

To fulfill grant obligations, you will need to make copies of the pre/post test for each student and one copy of the participant survey per presentation. The participant survey should be completed by the teacher/leader. These materials will need to be completed, collected, and returned to the University of Florida in the provided envelope. There are five envelopes provided for each FPMA district. The forms only have to be used and returned through May 2010. We appreciate you taking the time to help us collect this valuable data so we may continue to provide quality educational materials. Thank you so much for your help.

With appreciation,

A handwritten signature in black ink that reads 'Rebecca Baldwin'.

Dr. Rebecca Baldwin
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The Foundation for The Gator Nation

An Equal Opportunity Institution

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Instructions:

1. Request or provide a computer, projector and screen for the PowerPoint presentation.
2. Photocopy:
 - one participant survey per presentation.
 - one pre/post test (front and back) for each student.
3. If you wish to provide insect treats for the students (see slide 14), send a copy of the permission slip to the teacher one week prior to the presentation. *Feel free to include your logo on the page.*
4. Each teacher/leader should receive an Insects: friend or foe coloring book and poster (there are five provided per FPMA district), School IPM brochure, and a copy of the IPM Resources for Teachers.
5. Each student should receive an FPMA coloring book (70 per kit) and an IPM Star sticker. *The FPMA coloring book can be stamped with your company logo or information.*
6. At the conclusion of the presentation, please collect the pre/post tests (student names are not necessary) and participant survey form.
7. Collect your insect models for future use. (The insect models are \$5.99 each through InsectLore.com)
8. Return these forms along with any comments you may have to the Florida School IPM Program.

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Notes:

When reading the script, you will be prompted to ask questions of the students. Popular student answers are listed in parentheses on your script. If there are side notes or instructions to the presenter, those are also in parentheses. If there is an animation on the slide, you will see the instruction, [click]. You will need to click the mouse or arrow key on the computer to advance each slide.

Packing List:

Kit- models, stickers, posters, coloring books, presentation, copy of script

Copies – Pre/Post Test (one per student)

Participant Survey Form (one per presentation)

Teacher Resource List (one per presentation)

Other handouts you may wish to provide.



Bugs: Helpful or Harmful Pre-Test

Date: _____

Instructions: Circle the letter of the item that best completes the statements below.

1. An arthropod is an animal with
 - a. Fur
 - b. 2 legs
 - c. Jointed feet
 - d. No head
2. An insect is a type of arthropod with 3 body segments, _____ and _____.
 - a. An exoskeleton and 6 legs.
 - b. An endoskeleton and 4 legs.
 - c. Hair and 2 legs.
 - d. Pincers and a tail.
3. An insect that looks worm-like in the baby stage has what type of development?
 - a. Complete or Holometabolous development
 - b. Incomplete or Hemimetabolous development
 - c. No metamorphosis
 - d. Wormy
4. Insects are helpful to humans because they
 - a. Recycle dead plants and animals
 - b. Pollinate our food
 - c. Provide food for birds, lizards, and other animals
 - d. All of these
5. Insects can be harmful to humans when they
 - a. Pollinate food
 - b. Spread disease
 - c. Recycle dead plants and animals
 - d. Provide food for fish
6. IPM uses sanitation and exclusion to
 - a. Bring pests into your home
 - b. Kill pests
 - c. Keep pests out
 - d. Make pests into pets



Bugs: Helpful or Harmful Post-Test

Date: _____

Instructions: Circle the letter of the item that best completes the statements below.

1. An arthropod is an animal with
 - a. Fur
 - b. 2 legs
 - c. Jointed feet
 - d. No head
2. An insect is a type of arthropod with 3 body segments, _____ and _____.
 - a. An exoskeleton and 6 legs.
 - b. An endoskeleton and 4 legs.
 - c. Hair and 2 legs.
 - d. Pincers and a tail.
3. An insect that looks worm-like in the baby stage has what type of development?
 - a. Complete or Holometabolous development
 - b. Incomplete or Hemimetabolous development
 - c. No metamorphosis
 - d. Wormy
4. Insects are helpful to humans because they
 - a. Recycle dead plants and animals
 - b. Pollinate our food
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Bugs: Helpful or Harmful Participant Survey Form

Thank you for allowing us to present this educational program to your class. Please fill out this survey form and return it to the presenter. The surveys will be submitted to the University of Florida School IPM program for review.

Date: _____

Location: _____

Number of participants: _____

Grades: _____

Number of males and females _____ males, _____ females

Number of minority students _____.

I feel that I have gained useful knowledge from today's presentation. Yes/No/Unsure

I will use this material in my classroom. Yes/No/Maybe

On a scale of 1 to 5, rate the following: (5=excellent, 3 = average, 1 = poor)

Usefulness of information for the classroom	5	4	3	2	1
Appropriateness of material for age group	5	4	3	2	1
Adherence to state science standards	5	4	3	2	1
Usefulness of handouts (references, poster, coloring book, stickers)	5	4	3	2	1
Overall presentation	5	4	3	2	1

Comments, suggestions, requests, concerns, etc.

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IPM Resources for Educators

- National School IPM Information Source
<http://schoolipm.ifas.ufl.edu/INDEX.html>
- IPM for Teachers Curriculum
<http://paipm.cas.psu.edu/974.htm>
- IPM Activities and Resources for Teaching K-6
<http://www.pested.msu.edu/CommunitySchoolipm/curriculum.htm>
- Clemson Teacher Resources
http://www.clemson.edu/ipm/schoolipm_teachers.html
- Nebraska Pest Private Eye
<http://schoolipm.unl.edu/pestpi/>
- EPA Interactive Roach Prevention Activity
<http://www.epa.gov/opp00001/kids/roaches/english/>
- Best of the Bugs
<http://pests.ifas.ufl.edu/bestbugs/>
- Using Live Insects in the Classroom
<http://insected.arizona.edu/uli.htm>
- IPM Super Sleuth – games (word searches, lingo, crosswords, etc.) – 114 pages
http://www.ipminstitute.org/Super_Sleuth/homework_briefing.htm
- Project Wild
<http://www.projectwild.org/resources.htm>
- Florida Project Wild
<http://www.floridaconservation.org/educator/projwild.html>



UF/IFAS Entomology Publications for Education – IFASbooks.ufl.edu

[Creeping and Crawling Across the Web! poster](#)

Code: **SP 315**

Price: **\$5.00**

[ABC's of Entomology CD](#)

Code: **SPEN 40**

Price: **\$15.00**

[CSI: Crime-Solving with Insects poster](#)

Code: **SP425**

Price: **\$3.00**

[Insect World Records poster](#)

Code: **SP 421**

Price: **\$3.00**

[Butterfly ID Deck #1](#)

Code: **SP 273**

Price: **\$10.00**

[Butterfly ID Deck #2](#)

Code: **SP 274**

Price: **\$10.00**

[Alien Insect Invaders poster](#)

Code: **SP 422**

Price: **\$3.00**

[Scary Insects and Creepy Crawlies poster](#)

Code: **SP 423**

Price: **\$3.00**

[Entomology: The Study of Insects poster](#)

Code: **SP 424**

Price: **\$3.00**

[IPM Strategies in Institutional Settings Training CD](#)

Code: **SP 427**

Price: **\$25.00**

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Dear Parent or Guardian,

We are excited to announce that your child's class will be participating in an **Insectcational Workshop** called **Success with Pests: Helpful and Harmful Insects..** A member of the pest management industry will be here to introduce the children to the wonderful world of Arthropods. As part of this workshop, your child will have the opportunity to learn about insects and insect products, inspect models of insect life cycles, and even sample insect cuisine. If your child has allergies to shellfish, please inform them that they should not sample the insect cuisine. Please sign and return this letter giving permission for your child to participate and to give your child the option to try our tasty treats.

If you have any questions, please contact your child's teacher. For further information about insects in school, please visit <http://schoolipm.ifas.ufl.edu/>.

Sincerely,