



# WEE BEASTIES



Entomology Newsletter for Teachers

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University of Kentucky – Department of Entomology

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## Monarchs

Many people think of monarchs in the fall. They have been used in the classroom for education for years. What an excellent way to show the complete metamorphosis of an insect! Monarchs are easy to rear on milkweed and soon turn into a beautiful chrysalis eventually to emerge as a butterfly. To find these caterpillars, search on leaves of milkweed plants—a sign of their presence might be some droppings or holes in the leaves. Students are fascinated with live critters in the classroom. See our publication on Classroom Mascots at:

<http://www.uky.edu/Agriculture/Entomology/ythfacts/resourc/mascots.htm>

The migration of the monarch is tracked through Monarch Watch. Your classroom can be involved in this activity of tagging monarchs and recording sightings. An interactive web site for students and teacher is <http://www.monarchwatch.org/>

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## Flour Beetles in the Classroom

Flour beetles are small, oval, flat beetles, which can be pests in home pantries, mills, and warehouses. There are two common species; a dark brown to black confused flour beetle and the red flour beetle. The red species seems to be a little heartier than the confused flour beetle.

These critters are easy to maintain and perfect for science activities in the classroom. They could be used for inquiry (*KERA standard 2.1*) in an extended study of food preference. Flour beetles thrive in flour, nothing added – just flour, which would be a suitable control. Have students bring in food types for which to compare the growth rate of the beetles. Suggestions include oatmeal, bran flakes, breakfast cereal, wheat germ, cornmeal, or cake mix. If cereal is used, it should be crushed. Fill baby food jars or any small containers, half full of food choice and place equal number of beetles (at least 10) in each jar. Count the number of beetles every three or four weeks by pouring the contents of the jar into a petri dish or flat pan. Record number of adults and describe the immatures. Graph the numbers over time.

Flour beetles may be purchased from biological supply companies such as Carolina Biological Supply catalog (see catalogs and resources at the end of this newsletter). They may also be found in opened flour containers or other common grain products found in a kitchen.

For more description of flour beetles and other activity ideas using flour beetles, go to the web site.

<http://www.uky.edu/Agriculture/Entomology/ythfacts/resourc/resourc.htm>



## Sticks, Leaves, Seeds... and Insects!

Fall is also a good time to make insect ornaments for mobiles, Christmas ornaments or to hang in a window. Dragonflies, beetles, and butterflies may be some of the creations.

Use straight sticks, 3-4 inches long, and 4 maple seeds. Very small seeds or beads can be glued on one end of the stick for eyes.

With green eyes, red bodies, and gold wings, dragonflies make excellent Christmas tree ornaments!



<http://www.uky.edu/Agriculture/Entomology/ythfacts/allyr/ornament.htm>

## Termite Tracking



An excellent first day activity or reinforcement of the scientific method and inquiry involves chemical communication with termites. This is geared towards middle school or high school students. Termites are attracted to a chemical in the ink of Papermate or most any ballpoint pens. They do not respond to rollerballs or felt tips. They will not respond to all inks or to pencil or colored pencil. The termites will follow whatever design is drawn as long as the lines are heavy and fairly well spaced. A figure eight works well but this can be experimented with as well. The ink, which attracts the termites, has a substance that resembles the pheromones that the termite recognizes.



Have students cut a piece of paper to fit the inside of a petri dish and draw a large figure eight on the

paper with the ballpoint pen. They need to go over it several times. Place it in the petri dish. The termites are soft bodied so students need to be very careful when they use the forceps or tweezers to place them into the petri dish. Students make observations and record their data in a table which includes the headings of positive response +, no response O, or avoidance -. Students may test as many other pens and pencils as available and record the data. They might try different designs and see the reaction of the termites. Students should make conclusions about the observations and give a scientific explanation as to why the termites respond as they do.

A discovery type learning would be to use a blue ballpoint and another blue pen with no effect and ask "Why does this happen?" and then turn them loose to try different things. As a group, discuss what can be concluded and explain why this happens. Have students predict what will happen with different colors and what hypotheses for red ballpoint versus blue and green. It turns out the termites are blind and color should have no effect on the termite tracking.

Termites may be found in decaying logs and stumps in wooded areas. When it gets too dry they burrow down in the soil looking for moisture. They can also be ordered from Carolina Biological. Termites may last a few weeks if they have wood and are kept moist. I had couple of generations and was able to keep them the whole year with very low maintenance.

*This lab on Termite Tracking was adapted from one created by Lana Hayes of Simon Kenton High School in Independence, KY.*

## Did You Know?

- ⌘ Some butterflies taste with their feet. When a butterfly lands on a flower, the petals, which are faintly sweet, are sensed by the taste mechanism on the feet. The reaction causes the long tubular mouthpart to uncoil and probe down into the nectar.
- ⌘ There are ticks that may live one to three years without feeding but when they find a host, they become filled with blood in a few days.

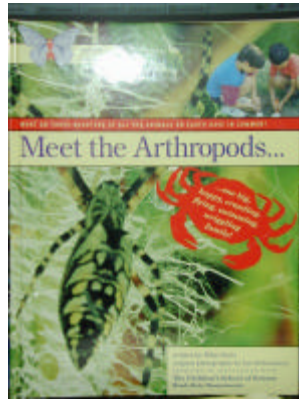
⌘ There are over a million species of insects. There are over 90,000 species of insects in North America. Insects outnumber all other animals four to one.

⌘ The oldest group of insects is the cockroaches, dating back 300 million years.

## Book Review

***Meet the Arthropods...***, by Ellen Doris, 1996

Thames and Hudson inc., New York. This book provides great ideas for studying arthropods, with a large emphasis on insects. It gives ideas on where to find specific critters and excellent photographs for identifying a specimen. The book shows how to raise, feed, and study certain insects such as a praying mantid. It is suitable for children nine and up.



***The Insect Almanac A Year-Round Activity***

***Guide***, by Monica Russo. 1991, Sterling Publishing Company, Inc. More ideas on where to collect insects and how to preserve are provided in this book. There are practical ways on how to display your insects and how they need to be mounted. Ideas for each season

are beautifully described.

## Announcements

⌘ KSTA (Kentucky Science Teachers Association) will have its annual meeting November 4<sup>th</sup> through the 6<sup>th</sup>. Extension entomology plans on being there with an exhibit as well as having a session on *Incredible Insects in the Classroom*. Stop by the exhibit and see our Australian walking sticks.

⌘ For those of you not too far from Lexington, there will be a *Trees, Trails and Creatures* theme at the arboretum, which will include tours, and displays as well as people dressed as different creatures throughout the area. This is ideal for a

field trip with your class. This will be October 8 & 9.

## Catalogs and Supplies

⌘ Carolina Biological Supply Company  
2700 York Rd.  
Burlington, NC 27215-3398  
Telephone for Orders: 1-800-334-5551  
Fax: 1-800-222-7112  
Technical Support: 1-800-227-1150

⌘ Wards Natural Science Establishment, Inc.  
P.O. Box 92912  
Rochester, New York 14692-9012  
Customer Service and Ordering  
Telephone: 1-800-962-2660  
Fax Ordering: 1-800-635-8439  
Catalog Request Only: 1-800-892-3583

⌘ BioQuip Products Inc. 17803 LaSalle Avenue  
Gardena, CA 90248-3602  
Telephone: 310-324-0620  
Fax: 310-324-7931  
e-mail: bioquip@aol.com

## A Note from the Editor:

Lana Unger began this newsletter about a year ago. She has moved to Idaho and I have taken her responsibilities. Previously, I taught seventh grade and high school science. I look forward to serving you in any way I can.

If you have ideas, experiences, or information that you would like to share or would like information about educational resources available through the University of Kentucky, Department of Entomology, write:

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**Lexington, KY 40546-0091**  
**859-257-5107**

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