

Executive Summary

As part of the Entomological Foundation's Insect Science Education program, the Entomological Foundation is investigating the need among educators for an Insect Science Education Kit (INSEKT). As a result, the Entomological Foundation implemented a survey in 2007 of K-12 educators who teach science to identify their needs and wants in teaching young people about science through insects. Specifically, would educators want and use such a kit, and what the kit should contain to best meet the educators' teaching needs.

With 100% of the 2,134 respondents reporting an interest in receiving INSEKT to teach entomology, it is apparent that educators are excited about teaching young people about science through insects. Among the respondents, 72% have previously incorporated insect education into their curriculum. The survey also exposed educators to the Entomological Foundation and its programs, and prompted requests for educational materials from more than 900 educators between September and November when the survey was implemented. Not only does this show an interest in teaching science through insects among educators, but it may be the result of an educator's limited financial resources. Approximately 76% of the respondents, when asked what could prevent them from teaching children about science through insects, stated limited resources including funding.

The majority of the educators who participated in the survey teach grades K-5 in a formal educational setting with between 21-30 students per class/session. The survey indicates that there is an equal proportion of respondents teaching in a rural, urban, and suburban school setting with the majority having access to natural areas such as wetland and fields in which to implement hands-on activities.

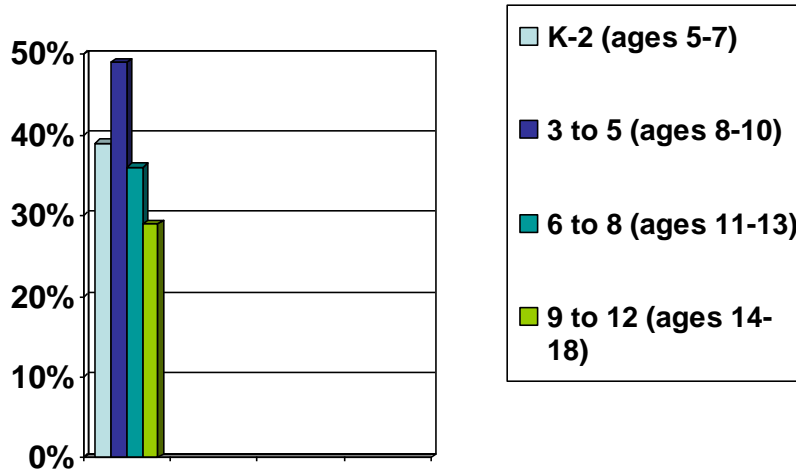
In teaching children about science through insects, the educators want background material about insects, lesson plans and activities, simple demonstration materials, and photographs/visual materials, which teach life cycles, interrelationships of living things, food chains/food web, and organisms and the environment. The materials should be in print format. Although, 46% want printed materials, more than 30% of the respondents would prefer educational materials in CD-Rom format. The format in which the educator would want to receive educational materials, may be dependent on the teacher's available resources as noted in the following results.

The survey showed that if an educator was not able to teach a science program focused specifically on insect science, a multidisciplinary approach to teaching about insects could be implemented. Based on results of the survey, insect science lesson plans and activities should include exercises incorporating writing and art.

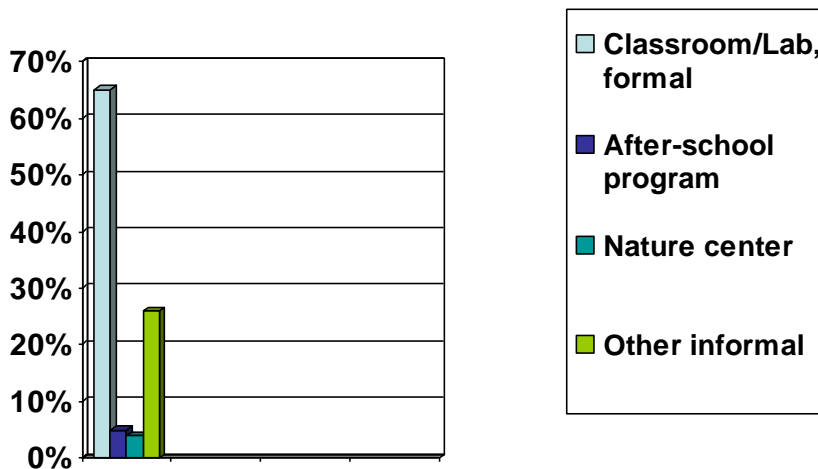
Please note: throughout the survey, educators were asked to select "all that apply" resulting in percentages higher than 100%.

Characteristics

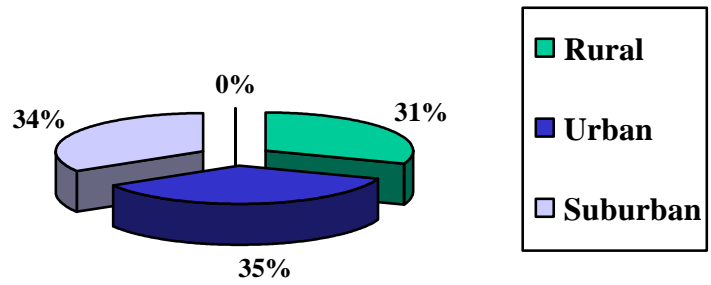
The majority of the educators at 88% teach grades K-5 while 36% teach grades 6 –8, and 29% teach grades 9-12. The majority of the teachers who responded teach more than one “set” of grades, this may be the result of home-school coops in which all home-schools in a community go to a parent’s home for science class.



When teaching science, the majority of the educators teach in a formal setting with 21 to 30 students per class/session; although, 35% of the educators, teach in an informal learning environment. Depending on the educational program, educators may work with 5 students in a youth club such as 4-H and over 40 students at a Nature Center.

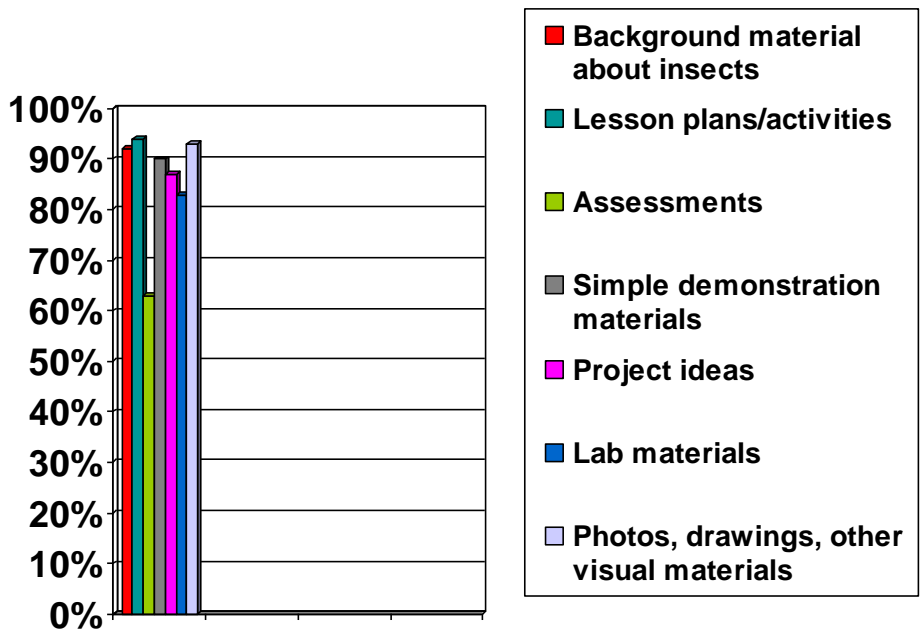


In developing hands-on activities, 74% of the educators have access to natural areas including wetlands, groves of trees, and field for implementing hands-on activities with approximately equal proportions teaching in either a rural, urban, or suburban setting.



Educational Materials

In teaching entomology, the data show a higher interest in using background material about insects, lesson plans and activities, simple demonstration materials, and photographs/visual materials.



The majority would want educational materials in a hard copy format, although more than a third would want a CD-Rom. Based on the “other” responses, educators requested a mix of all three formats. To meet the needs of all the educators, a mixture of all formats could be implemented; although, resources available to the educators are limited.

		Number respondents	Percent Respondents
Printed		972	46%
CD-ROM		728	34%
Web-based		331	16%
Other, please specify		103	5%

In reference to resources, which could be used to teach insect science, approximately 76% have access to a computer with Internet access, and 78% have magnifying lenses for their students. Overall, resources including entomology books, field guides, and insect collection equipment are only available to 26% and 17% respectively.

The topics the educators would emphasize through these materials, either by preference or mandate, when teaching insect science showed that more than 80% would focus on life cycles, interrelationships of living things, and food chains/food web with 78% focusing on organisms and the environment. (Teachers could select more than one response.) Approximately 88% stated a multidisciplinary approach to teaching about insects could be implemented into their current educational setting. According to these respondents, 84% stated they would teach the subject through writing, while 73% would introduce the topic through art.

Barriers:

The survey indicates that limited resources including funding along with a lack of supplies could be a factor in preventing the educator from teaching about insect science, as noted below. As noted above, only 26% have entomology books and field guides for their students, while only 17% have access to insect collecting supplies.

