

COOPERATIVE
EXTENSION
SERVICE



College of Agriculture,
Food and Environment

extension.ca.uky.edu

EXTENDING KNOWLEDGE

Changing Lives



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When you
support
Extension,
youth conduct
scientific
inquiry which
creates interest
in science
careers.



Middle school students work in teams to conduct learning activities on Madagascar Hissing Cockroaches and other insects.

4-H Unlocks the Mystery of the Madagascar Hissing Cockroach for Breckinridge County Middle School Students

Students design science experiments with the cockroaches addressing insect anatomy, adaption, populations, genetics, fossil records, nutrient cycling kinetic and potential energy, parasitism and sound.



74% of Breckinridge County Middle School students are confident they can complete a science related degree after high school as a result of engaging in 4-H science activities in the classroom.

The Breckinridge County Middle School discovered the mysteries of the Madagascar Hissing Cockroach with 4-H and the Extension Service. Breckinridge Extension Service established a hissing cockroach colony in each 7th and 8th grade science classroom at the middle school. Each month the 4-H agent and middle school science teachers led the youth in hands-on science labs with the cockroaches. The activities reinforced science content such as the scientific method, insect anatomy, genetics, populations, physics (e.g. velocity, kinetic energy, chemical energy), and nutrient cycling.

Youth developed their own questions about the hissing cockroaches, designed an experiment, carried out the experiment, collected data, and wrote a report. Youth gained experience problem solving and communicating their scientific findings. After participating in this program, youth felt more comfortable interacting with insects and gained a greater understanding of science concepts because of the cockroach labs.

Interacting with a small organism like an insect has made a large impact on youth in Breckinridge County, sparking their interest in science. Teachers reported an increase in math skills, confidence to plan and carry out their own experiments following scientific method and making scientific observations in their daily lives.



Extension established cockroach colonies in each 7th & 8th grade science classroom and conducted research activities each month.



Students asked scientific questions, made predictions, and conducted their own experiments.