

4-H Entomology Project



CURRICULA & RESOURCES

Michigan 4-H Curricula

http://4h.msue.msu.edu/programs/environmental_outdoor_education/entomology

- » 4-H Entomology Class & Order Labels (4H1331)
- » 4-H Entomology Labels (4H1231)
- » 4-H Entomology Leader's Guide (4H1479)
- » 4-H Entomology Record & Report (4H1393)
- » Advanced Entomological Techniques Member's Guide (4H1336)
- » Basic Entomology Member's Guide (4H1335)
- » Insect Life Cycle Studies Member's Manual (4H1406)

National 4-H Curricula

<http://www.4-h.org/resource-library/curriculum/>

- » Entomology
 - Teaming With Insects – Level 1 (Grades 3 to 5)
 - Teaming With Insects – Level 2 (Grades 6 to 8)
 - Teaming With Insects – Level 3 (Grades 9 to 12)
 - Facilitator's guide

Other 4-H Curricula

Entomology for Kids and Teachers (University of Kentucky): <http://www2.ca.uky.edu/entomology/dept/youth.asp>

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WHAT'S IT ALL ABOUT?

The 4-H Entomology Project allows you to study and learn about insects, the largest group of animals on earth. Discover more about science and nature through entomology, the study of insects. Explore the possibility of entomology as a future career.

- » Explore the biology of insects.
- » Connect biodiversity, invasive species and integrated pest management (IPM) to your study of insects.
- » Explore forensic entomology by completing insect research and using the scientific method.

THE BIG PICTURE

Starting Out:

- » Learn to identify insect parts.
- » Identify various shapes, sizes and colors of insects.
- » Match an insect's form to its function and explore its adaptations.
- » Discover insect behaviors of jumping, flying, walking and other behaviors, comparing them to human abilities.
- » Explore insect biodiversity by collecting various insects using different traps.
- » Learn about invasive insect species and the reasons for their survival success.
- » Identify biological controls with the use of insects, relating it to IPM and forensic entomology.
- » Develop an understanding of and an appreciation for entomology.

Learning More:

- » Explore how to make insect collection tools such as an aerial net, hand lens, collecting jar and relaxing jar.
- » Attract and collect insects, and then study the diversity of the specimens collected.
- » Observe and study various behaviors of insects, such as feeding, attraction and movement.
- » Use IPM practices within your home.
- » Explore forensic entomology principles to properly identify an insect.
- » Develop a deeper understanding of and an appreciation for entomology.

Expanding Horizons:

- » Conduct research and use additional resources for in-depth study of entomology.
- » Use the scientific method to record and keep accurate records to use in reporting or presenting your findings.
- » Explore the use of transect sampling to study and monitor the environmental health of a habitat.
- » Continue explorations in diversity through advanced insect collection and measurements using the scientific method.
- » Explore IPM by teaching others about pests.
- » Solve crimes by using forensic entomology principles and skills.



FOCUS ON ENTOMOLOGY

Science

- » Research and explore the biology of honeybees to develop and manage your own productive honeybee hive.
- » Collect various insect species, and identify and categorize them based on taxonomic key factors such as body parts, behaviors and life cycles.
- » Explore insect behavior by collecting or just observing different insects under various environmental conditions.



Communication

- » Prepare and present an educational presentation on an IPM plan you develop to help solve a specific insect-related problem.
- » Prepare a demonstration or presentation on invasive insect species and present it to local 4-H, gardening and community organizations.

Citizenship & Leadership

- » Work with a 4-H club or another organization to develop a biological control program for an invasive species, develop an action plan and assist in the plan's implementation.
- » Work with a 4-H club, community garden club, or your parents or guardians to develop a flower garden to attract beneficial insects.

Life Skills

- » Use critical-thinking, problem-solving and decision-making skills to help you make good decisions about project management.
- » Keep records on your project expenses and income.
- » Practice personal resiliency through successes and challenges in your project.

HOW CAN YOU GET INVOLVED?

- » Contact your local Michigan State University (MSU) Extension office for workshops, activities and events.
- » If you are interested in a college education in entomology, visit MSU's website at www.msu.edu to explore those majors.

Other Resources

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- » The Bee Hive (Purdue University): <http://extension.entm.purdue.edu/beehive/>
- » How to Make an Awesome Insect Collection (Purdue University): <http://extension.entm.purdue.edu/401Book/>
- » How to Make Butterfly Gardens (University of Kentucky): <http://www2.ca.uky.edu/entomology/entfacts/ef006.asp>
- » MSU's Bughouse: <http://www.ent.msu.edu/bughouse>
- » MSU Extension Entomology resources: <http://www.ent.msu.edu/extension>

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