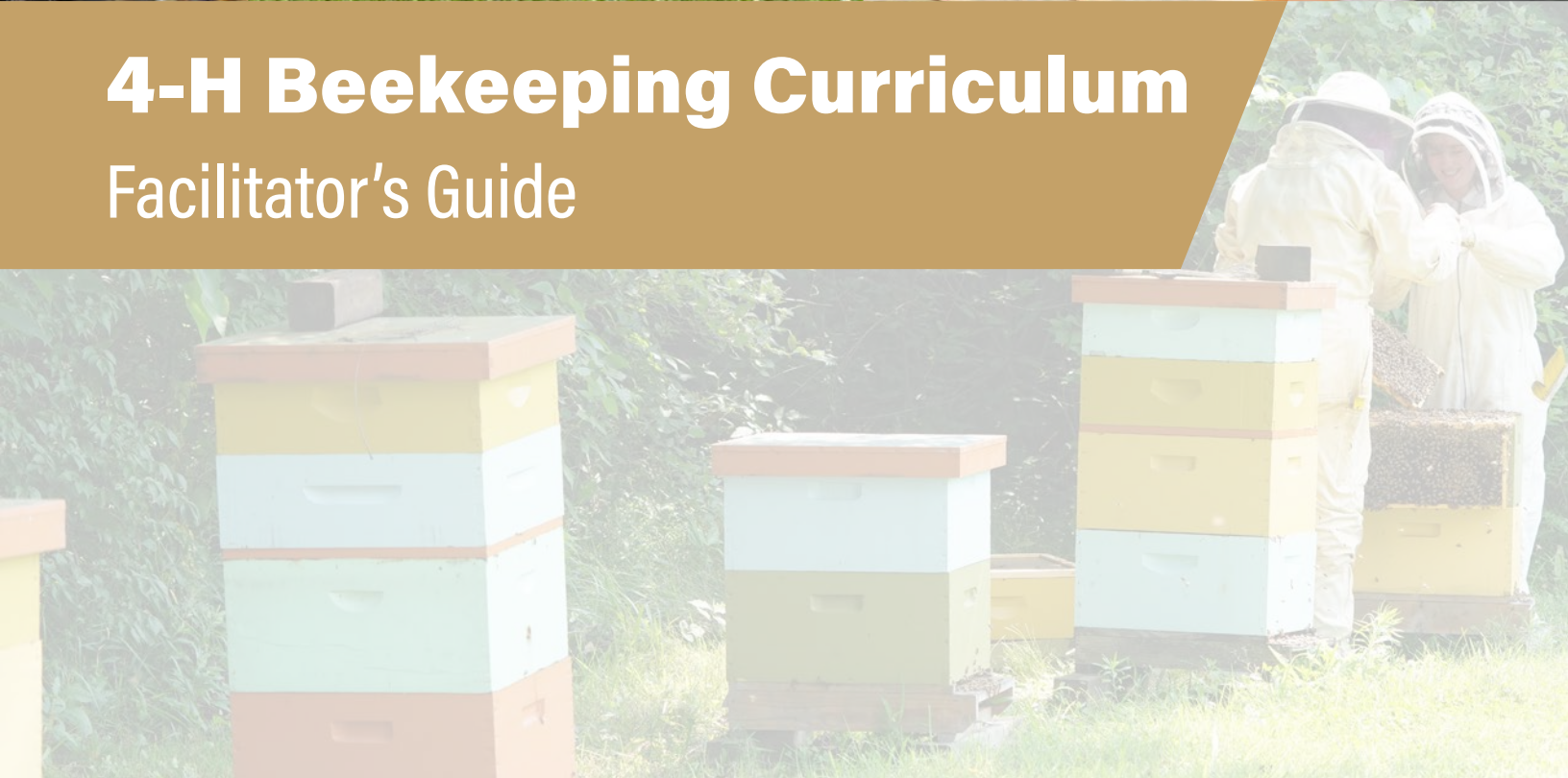




4-H Beekeeping Curriculum

Facilitator's Guide



Note to the 4-H Project Facilitator

Thank you for taking the time to help a young person learn more about beekeeping. Studying and learning about bees can be both fun and profitable. The 4-H Beekeeping curriculum is for youth who want to learn about bees and beekeeping. Beekeeping offers many hands-on, educational experiences, from learning about bees and nectar to raising bees and producing honey.

The curriculum is divided into three manuals. The major focus of each is described below.

Level 1, *Learning About Beekeeping*, is intended for upper elementary students. It covers information on the basic facts of beekeeping: types of bees, the honey and wax they produce, plants that attract bees, and introductory beekeeping equipment. Youth are not required to have bees as they prepare to take care of a honey bee colony of their own.

Level 2, *Working with Honey Bees*, is for youth who have completed the Level 1 manual and feel ready to start a beehive. We expect a parent or other advisor/mentor to guide the new beekeeper. Activities in this manual help youth as they acquire a colony and learn how to care for their beehive throughout the year. It also introduces basic beekeeping operations resulting in the production of extracted, chunk or cut comb honey.

Level 3, *Advanced Beekeeping* is for a young beekeeper who is experienced and knowledgeable in the basic care of a beehive. Advanced topics include increasing the number of honey bee colonies; increasing honey production; producing special kinds of honey; more about bee societies; and how to manage honey bee diseases and parasites.

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CONTENTS

Experiential Learning	4
Learning Goals	5
4-H Life Skills.....	5
The Experiential Learning Model.....	6
Youth Development Stages	6
Next Generation Science Standards.....	8
Quiz Yourself Answers.....	10

Notes:

- The amount of reading in the Level 1 manual may be difficult for younger members (third and fourth graders). We recommend that an adult read with the 4-H member and pause to discuss the Quiz Yourself questions.
- If someone is stung by a bee and appears to be having a reaction to the sting call 911 immediately and follow the instructions from the dispatcher.

Experiential Learning

Learning about beekeeping is based on experience-centered activities. Youth are encouraged to take responsibility for their beekeeping project. They can enhance their learning by consulting others who raise bees and, as the youth mature, by reading books and online publications and attending bee association meetings. Youth are encouraged to have an experienced beekeeper as an advisor and mentor throughout their beekeeping career.

Experiential learning is the hallmark of 4-H youth development education. The five steps of experiential learning can enhance every learning experience. Encourage youth to:

- Experience an activity or project.
- Share what happened during the activity or project.
- Reflect on your work.
- Generalize what you learned.
- Think about how you can apply what they learned to other situations and life in general.

The beekeeping curriculum exemplifies the 4-H motto, "Learn by Doing." Youth are expected to work with a mentor/facilitator beekeeper. The manuals offer guidance and information but do not provide activities for youth to perform on their own before discussing the experiential learning questions with their facilitator. Beekeeping must be learned with a knowledgeable adult. A few questions are included in the first two manuals for facilitators to discuss with the young beekeeper(s).

You can strengthen learning by encouraging the 4-H beekeeper to discuss what they're doing and learning with you, their mentor and anyone else who is interested.



Facilitators help youth by being involved. Discussing what the 4-H member learned and what they didn't understand helps the youth have a better learning experience. Everyone likes to have others interested in what they're doing, particularly young people. Youth take on more responsibility for their learning and move to independent learning as they mature, but they still enjoy discussing their work. Facilitator interest and support reinforces learning at any age. Your teaching and involvement helps 4-H beekeepers grow and mature, and makes 4-H a rewarding and fulfilling experience. Thank you!

Learning Goals

Learning About Beekeeping

- Begin to learn about bees and beekeeping
- Develop understanding of and appreciation for honey bees
- Share learned information

Working with Honey Bees

- Set up a hive and care for it throughout the year
- Expand knowledge of bees and beekeeping
- Harvest extra honey
- Keep beekeeping records
- Exhibit to teach others about bees
- Share learned information

Advanced Beekeeping

(learning depends on chosen activities)

- Successfully expand the apiary
- Improve record-keeping skills
- Gain competency in caring for queens, splitting colonies and/or using bees for pollination
- Develop expertise in seasonal management
- Understand common bee problems and know what to do
- Develop a business and marketing plans
- Understand the dangers of pesticides and bees
- Educate others about beekeeping through presentations or mentoring younger 4-H members

4-H Life Skills

4-H programs help youth develop knowledge and skills that help them become caring, competent adults. In their publication, [Targeting Life Skills in 4-H](#), Norman and Jordan define life skills as competencies that assist people in functioning well in the environments in which they live (M.N. Norman and J.C. Jordan, University of Florida Extension, product number 4H FS101.9). 4-H uses the Targeting Life Skills Model (Hendricks, 1998) to identify important assets that youth can learn through 4-H programming. The model uses the 4-H Pledge to categorize various life skills under four general competency areas: Head, Heart, Hands and Health. These categories are described below.

Head: knowledge, reasoning and creative competencies

- *Thinking* – using one's mind to form ideas and make decisions; to imagine; to examine carefully in the mind; to consider
- *Managing* – using resources to accomplish a purpose

Heart: personal and social competencies

- *Relating* – establishing a mutual or reciprocal connection between two people that is wholesome and meaningful to both.
- *Caring* – showing understanding, kindness, concern and affection for others

Hands: vocational and citizenship competencies

- *Giving* – providing, supplying or causing to happen; social responsibility
- *Working* – accomplishing something or earning pay to support oneself through physical or mental effort

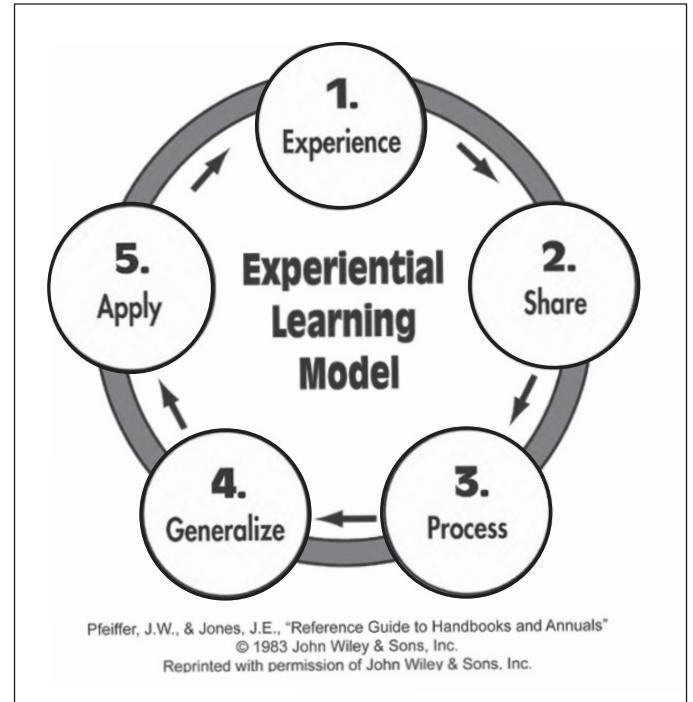
Health: health and physical competencies

- *Living* – acting or behaving; the manner or style of daily life
- *Being* – living one's life; pursuing one's basic nature; involved in personal development

The Experiential Learning Model

According to the Experiential Learning Fact Sheet from National 4-H Headquarters, "Experiential learning takes place when a youth is involved in an activity, looks back at it critically, determines what was useful or important to remember, and uses this information to perform another activity. 4-H uses this hand-on learning approach to teach new topics and life skills." ([Experiential Learning Principles](#), M.N. Norman and J.C. Jordan, University of Florida Extension, product number 4H FS101.10)

The experiential learning model helps youth make the most of any activity. It distinguishes 4-H activities from many other educational methods. Experiential learning allows youth to first learn by doing, before being told or shown how, and then to process the experience. Activities are designed so youth **experience** a learning activity; **share** what they did; **process** what they did through discussion, analysis and reflection; **generalize** what they learned to test their comprehension and appreciation of the activity; and think about how they can **apply** what they learned to other situations.



Youth Development Stages

Source: Ages and Stages of Child and Youth Development: A Guide for 4-H Leaders. J. Karns and J.A. Myers-Walls, Department of Child Development and Family Studies, Purdue University. North Central Regional Extension Publication No. 292 (out of print).

Understanding their physical, mental, social and emotional development helps you in working with young people. Of course, no two people develop at the same rate, and transitions are sometimes quick and sometimes gradual. Youth of the same age vary greatly in physical, mental, social, and emotional growth and interests. These differences are even more marked between age groups.

However, research has shown some generalities that can help you understand how to plan activities

for different age groups. People — parents, guardians, mentors, advisors and teachers — who are immersed with high school youth, for example, may not remember how younger age groups think, act and interact. These generalities are provided as reminders and guidelines. Understanding them may contribute to a successful relationship with youth, both individually and in groups.

Early Elementary (Pre-4-H Age)

This is an active age, so it's important to keep these children busy. They're concrete thinkers and need to understand what you want them to do and how to do it. They are generally more interested in making something than in completing a project (process