Illinois 4-H | Spark Ideas. Ignite Possibilities.

This project will familiarize members with the roles bees play in the eco-system, and how they can be used as a production species. What role do bees play in agriculture? What products do bees produce? What does it take to be a beekeeper? You can learn all of this and more in the Beekeeping project!

Exploring Beekeeping
Spark Activity: Leaping Pollen

Honeybees are expert hexagonal honeycomb cell builders! A hexagon is more compact than any other shape with no wasted space in between each hexagon! The bee uses less energy and wax to build it, which means that bees can use their energy on other important activities—specifically, foraging and making honey. The honeycomb is the inner house for honey bees. It is where young bees are raised and where their food is stored. Comb is built out of beeswax, which is produced only by young worker bees. (A worker bee is a female bee and they make up about 99% of the hive's population). Bees make these hexagons perfectly each time! Draw a circle and see if you can fill it with hexagon shapes that fit perfectly.

Bees and flowers have a very special relationship. Pollination is the transfer of pollen from one flower to another causing fertilization and reproduction. Bees and other insects are called pollinators when they carry pollen on their bodies and help pollination. Can you think of other pollinators such as the wind, a wasp, a moth, etc.? Bees, however, are by far the best pollinators!

This activity shows how a charged balloon behaves like the charged bee body making pollen leap from a flower. Materials needed: scissors, construction paper, tissue paper, balloon and your hair or a fuzzy sweater.

Directions:
1. Make a flower - Use scissors to cut a flower shape out of the construction paper.
2. Make your pollen – Cut or tear pieces of tissue into small confetti like pieces and make a pile in the center of your paper flower.
3. Make the bee – Blow up your balloon and tie the end. You are welcome to decorate the balloon like a bee. Rub your "bee" on your hair or sweater for at least 10 seconds.
4. Hunt for pollen – Hold your "bee" near the flower with the pollen but don't actually touch them together. What happens?

4-H Project Levels and Goals

Beginner
- Learn safety around bees
- Select the best breed of bee for your family
- Research necessary plants and food sources your bees will need
- Learn hive structure and the purpose of each part
- Learn purpose of beekeeping equipment

Intermediate
- Study hive dynamics and the social hierarchy of bees
- Identify hive health concerns and make a care management plan
- Describe the ideal location for a beehive: nectar, water, sunlight, drainage and vegetation
- Learn to draw bees to your hive
- Extract honey from a hive

Advanced
- Design a plan for a business utilizing bees
- Investigate bee-related careers
- Discuss major human health concerns related to bees
- Prepare your hive for winter
- Chart bloom of honey plants in your area, relate to hive management

Put Your Project Into Action

Show Your Skills
- Local county 4-H show
- Illinois State Fair 4-H show
- 4-H club talk or demonstration related to beekeeping
- Use honey produced by your bees to participate in the Illinois State Fair junior culinary competition

Service and Leadership
- Teach others about your bees
- Attend a local beekeeper's club meeting
- Plant a community garden with vegetables, herbs, and flowers that attract bees
- Sponsor a beehive
- Volunteer with your local beekeeping society
- Recruit others to join the 4-H Beekeeping project
- Create exhibits, presentations and demonstrations, and mentor other 4-H members
- Create a virtual education series about bee related topics like baking with honey, taking a pollinator hike, or installing a butterfly garden

Entrepreneurship
- Create a beekeeping business plan
- Sell products using bee by-products like honey, beeswax or pollen
- Create starter hives or provide replacement bees

Technology Connection
- Apps and monitoring technology track hive temperature, humidity, weight and activity
- Visit the American Beekeeping Association website for current information and issues

Connecting with a Mentor
- Illinois State Beekeepers Association
- Illinois State Beekeepers Association - affiliate associations in regions across Illinois
- American Beekeeping Federation
- University of Illinois Extension (local office)

Events
- 4-H workshops or SPIN clubs on beekeeping
- Illinois Extension Master Gardener or Master Naturalist programs related to bees or pollinators
- Illinois State Beekeepers Association website lists events throughout the state

Careers for People Interested in Beekeeping

Beekeeper	Entrepreneur - Honey
Entomologist	Product Sales

Start a Conversation

What did you learn from doing this project that you didn't know before?

What did you learn about yourself by doing this project?

What part of this project was hardest to do?

What are some ways you can continue to learn new things about this project?

What did you learn by participating in this project that will help you in the future?

Want to learn more?
go.illinois.edu/4Hbeekeeping

Explore more at Illinois 4-H!
4-H.extension.illinois.edu

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