



*Learning, Leading, Living*

# Hand-Rolled Beeswax Candle

## Mission Mandate/Project

### Connection:

Science and Technology/  
Entomology/Arts and Crafts

### Topic:

Candle making

### Life Skills:

Learning to Learn

### Audience:

4-H youth, all ages

### Length:

20 minutes

### Materials Needed:

- One sheet of thin surplus foundation or beeswax honeycomb for candles
- 2/0 Candle wick
- Scissors

### Link to pictorial on making beeswax candles:

<http://www.youtube.com/watch?v=cWezDH5jpHg>

### Suppliers for beeswax foundation and wick:

[www.dadant.com](http://www.dadant.com)  
[www.mannlakeltd.com](http://www.mannlakeltd.com)

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## BACKGROUND

Honey bee populations have been in trouble in recent years, and there has been a lot of concern about bees. With good reason – one in every three spoonfuls of food we eat has been pollinated by a honey bee.

What is pollination? Pollination is how plants become fertilized and produce seeds. When honey bees travel from plant to plant gathering nectar (a sweet sugary substance produced by plants), grains of pollen stick to their bodies. Grains of pollen from one plant fall off the bee into another plant and voila, the plant is pollinated!

Having honey bees around increases the yield of many of our fruit and vegetable crops. And of course, the bees convert all of that nectar they are gathering into honey! And where do they put all of that honey? Well, bees create little cells from wax that we call a honeycomb. Think of the little cells as tiny buckets. These little buckets are built by the honey bee and placed side by side and are used to store honey, pollen, and to raise their young.

## Beeswax Facts

- Worker bees produce beeswax from wax glands located in their abdomen. The glands secrete wax scales, which are then chewed by the honeybee to soften it and turn it into a building material.
- Honeycomb is made from beeswax and is in the form of hexagon-shaped cylinders built side by side.
- Beekeepers put beeswax foundation in bee hives to encourage bees to create honeycombs.
- One sheet of beeswax foundation has thousands of cells.
- It takes energy to create beeswax – about 6-8 pounds of honey are needed to produce one pound of beeswax.
- Beeswax melts at 149 degrees F.
- Beeswax is used in pharmaceuticals, cosmetics, art supplies, furniture polish, and candles.



In this activity, 4-H'ers will produce a beeswax candle using a beeswax foundation.

### WHAT TO DO:

First, distribute the materials, explaining that beeswax foundation is made from beeswax and manufactured with an imprint in the wax to encourage bees to build a honeycomb.

- Each 4-H'er will need one sheet of foundation and one length of candle wick that is about one inch longer than the width of the foundation. Foundation can be cut into strips lengthwise if needed to make shorter candles.
- Beeswax foundation is very fragile. It will become brittle and can crack in cold weather. Most beeswax suppliers won't ship beeswax in cold weather. It is better to do this project when the weather is warm.

Next, have the youth lay the wick on one end of the foundation. The wick should be even with one end of the foundation and extend about an inch out from the other end.

Have the youth fold the foundation over the wick. The fold should be just enough to cover the wick. Fold again. After a few more folds, have the youth start to roll the foundation around the wick. Continue to roll the foundation.

Encourage them to take their time. The roll should be very tight. At the end, have them use their fingers and gently push the loose end into the candle, which will keep it from coming apart and hide the seam.



**ENCOURAGING YOUTH LEADERSHIP:** Have youth leaders make a sample candle in advance and then lead the activity with younger youth.

### TALK IT OVER:

*Reflect:*

- What did you learn about bees that you didn't know before?
- What are some of the ways that bees play a part in our world? In our daily lives?
- How important are bees to us?

*Apply:*

- What are examples of other animals that benefit us?
- What are things that we might consider when we work with animals that benefit us?

## ENHANCE OR SIMPLIFY

- Encourage a beekeeper from your area to come to your club meeting and give a talk about bees and beekeeping. Visit <http://www.wihoney.org/> to find beekeepers in your area. Another way to find beekeepers is to call your local Police and/or Sheriff's Department. They maintain a list of beekeepers for swarm removal.
- Develop a beeswax candle project for your club. Hand rolled beeswax candles can be made from different colors of wax and in many shapes and sizes.
- Use the candles as part of a communication activity: have pairs or small groups of youth develop commercials to "sell" their candle creations.