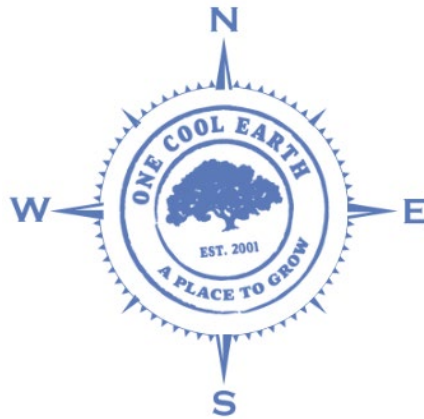


Beeswax Wraps



South: Society

NGSS Standards:

MS-ESS3-3. Apply scientific principles to design a method for monitoring and minimizing a human impact on the environment

Lesson Overview:

In this session, students will learn about various types of plastic and work together to create a reusable beeswax wrap.

(If your group has not done a waste audit, consider doing a small audit prior to this session)

Materials:

- 50g Food Grade Pure Beeswax, unscented ([example](#))
- 1 tbsp powdered Pine Resin
- 1 tbsp coconut oil
- Fabric pieces (cotton or linen) – old tshirts work!
- Tongs (2)
- Drying rack / fence/ clothesline
- Pot



- Butane stove top + fuel to be stored and disposed of properly (check your cooking kits or check out one from our headquarters garden) / You may also want to use the school's stove if available
- Plastic sandwich bag
- Fabric markers (optional)

Prep:

Cut the fabric into sandwich bag size squares for students to sew together later.

Buy fuel (butane) for your stove

Safety first! Remember to follow the safety instructions of the butane stove. Stop using the portable butane gas stove if it is not operating or igniting correctly. Do not leave a lit stove unattended or place flammable items nearby during use. If you smell a gas leak, put out all flames and turn off the stove, gas valves and regulators.

Activity Procedure:

Engage:

What are some ways you have helped the earth by either reducing, reusing or recycling? Have students share. Remind students of previous conversations about plastics in our environment (see [Keystone Species](#) lesson or [Farmstand 1 Lesson](#)) or remind students about a previous waste audit.

- *Remember when we did our waste audit? We sorted all of our school's waste and we found that much of our waste was going to the landfill, instead of getting composted or put in the green waste. What items were going to the landfill? (share ideas) Plastics were one of the top items going to the landfill!*

Explain:

Today's activity is all around creating sustainable items that we can use instead of plastic. Most plastic items that we use in our daily lives, from food packaging to plastic bags, are not recyclable -- less than 9% of plastic is recycled in the United States today¹. However, there are some plastic items that can and should be recycled to avoid adding more plastic to sit in landfills for hundreds of years!



Did you know that there are seven types of plastic? We really only need to distinguish between hard and thin plastics. Hard plastics can be recycled, but thin plastics can't be recycled in San Luis Obispo county. Hold up a plastic sandwich bag Do you think this can be recycled? Wait for students to respond. You're right, this plastic bag is very thin, so it has to go in the trash.



¹ [EPA: National Overview: Facts and Figures on Materials, Wastes and Recycling](#)

When plastics don't get thrown away properly, they can end up in our streams and waterways. Plastics are just one type of marine debris and are very harmful to the environment. Marine debris is any solid trash that has found its way to some form of water. Plastic bags are something that we find a lot on our school campus and we need to think about ways to reduce our plastics. We're going to be making something that can replace this plastic bag – we're going to make beeswax sandwich bags!

Action: Making Beeswax Wraps

1. Decide if you want to decorate/design your beeswax wrap using fabric markers
2. Prepare your work area by setting up your stove and setting your pot on top
3. Melt 50 g of beeswax together with 1 tablespoon of coconut oil and 1 tablespoon of powdered pine resin. Stir thoroughly.
4. Dip the fabric into the mixture until well soaked.
5. Use tongs to pick up 2 corners of the fabric and lift out of the pot.
6. Hold the fabric in the air until it's no longer dripping liquid wax, and then hang it onto your drying rack to finish drying.
7. Have students help clean up. Beeswax mixture can be added to the compost, if appropriate.
8. Collect the beeswax fabrics and save for the next session, where students will sew the pieces together to make the sandwich bag



Reflection:

What can we replace with this beeswax wrap? What do you think about reusing instead of throwing away? How else can you reuse the plastic in your life and how else can you use the beeswax bag?

Extensions (optional):

- Read *The Secret Life of Bees: Meet the bees of the world, with Buzzwing the honeybee*
- Once the wraps are dry, consider moving on to the next lesson: [Sewing Beeswax Bags](#)



Sources:

- [Ditch Plastic — EcoSlo](#)
- [NOAA: What is Marine Debris?](#)
- [New to DIY BEESWAX WRAPS: The Dipping Method - Green Skills Inc](#)

To see another version of this lesson:

[ACTIVITY: DIY Beeswax Wraps](#)

More resources around marine debris can be found here: [NOAA Marine Debris resources for Educators](#)

This lesson was prepared by One Cool Earth under the Marine Debris Program of the National Oceanic and Atmospheric Administration (NOAA), U.S. Department of Commerce. The statements, findings, conclusions, and recommendations are those of the author(s) and do not necessarily reflect the views of NOAA or the U.S. Department of Commerce.