

DYING OLD CLOTHES WITH FOOD WASTE

OBJECTIVES

Students will:

- Understand a valorisation technique for food waste
- Be able to create a natural dye which can be used to dye an old garment

MATERIALS NEEDED

- Food waste – see the info box below for ideas about what food waste to collect
- Glass jar
- Wooden spoon
- Saucepan
- Sieve or colander
- Clean old white cotton t-shirt (using a light-coloured garment, made from a natural fibre will work best)
- Drying rack or washing line
- (Optional: salt/vinegar for fixative step)

BACKGROUND INFORMATION

Please see the webpage for more information about Food Waste and Textile Recycling

- Most fruit and vegetables end up leaving a significant amount of waste - the skins, stones, pips etc. - which are not edible.
- Whilst food waste can - and should - be composted, you can give food waste a new lease of life by using it to create natural dyes.
- A bonus is that these dyes are much less damaging to the environment than some other commercial synthetic dyes.

WHAT FOOD WASTE TO USE?

There are lots of examples of different food waste you could use in this practical, and the colour of the dye will depend on the food waste you use.

Collect up the food waste until you have around 1 cup of the scraps you want to use.

Common examples are:

- Red or yellow onion skins
- Beetroot tops
- Mushy berries which are past their best
- Sweet potato peelings

Feel free to research more ideas online, or just use whatever you have to hand and see what happens! Although, bear in mind that water veg peelings like cucumber are unlikely to give a strong enough colour to dye clothes.

STEP-BY-STEP INSTRUCTIONS

CREATING THE DYE

1. Break up the food waste into small pieces, which will increase the surface area of the waste
2. Place the food waste into the pan, and cover with double the volume of water (i.e. for one cup of food waste, cover with two cups of water)
3. Bring the water to the boil, and allow to simmer for one hour
4. Remove the pan from the heat and allow to cool. The longer you leave the mixture to cool, the deeper the colour will be. Strain the mixture to remove the food scraps and store the dye liquid in the glass jars.

Here we include the instruction to use the dye to dye a t-shirt. However, there are several different ways you can use your dye, with more ideas here: <https://www.vermints.com/blog/make-natural-paint-with-leftover-fruits-and-veggies/>

DYING YOUR GARMENT

1. To prep the garment, you can add something called a fixative which help the fabric keep its colour after dying.¹ You can skip this step, but the fabric may not hold the dye as well, and if you do skip this step make sure the garment is soaked in water before the next step.
 - If you have made a vegetable-based dye, create a fixative by adding one cup of vinegar and 4 cups of water to a pan. Add the fabric to the vinegar mix and simmer for an hour or two.
 - If you have used a berry-based dye, create a fixative by adding ½ cup of salt and 8 cups of water to a pan. Add the fabric to the salt solution and simmer for an hour or two. Allow the solution to cool so the garment can be removed.
2. Add the dye solution to a clean pan, bring to a simmer and then very carefully add the wet garment. Simmer the garment in the dye for at least an hour.
3. After an hour, cool the dye/fabric mixture. Once it is cool, remove the garment and rinse it under cold water, squeezing to remove any excess dye until the water runs clear with no dye.
4. Hang the garment up to dry, and it is ready.

ADDITIONAL ACTIVITIES

- Experiment with tying up the shirt before adding it to the dye, which will result in a tie dye effect. There are lots of examples online on how to do tie dye.

¹ https://en.wikipedia.org/wiki/Mordant#dye_fixative