

Chemistry

**Care for your clothes, like the good
friends they are**

RecyCOOL Lessons

Disclaimer

These lessons have been created for and tested with young people in Slovakia, the Czech republic, Germany, Hungary and Croatia. They are open-source and available for adaptation for different groups globally.

All lessons were created in the Erasmus+ project as educational materials for young people 15+. These are peer-to-peer youth educator lessons created through an inclusive and participatory educational approach. The content, information, opinions, and viewpoints contained in these educational materials are those of the authors and contributors of such materials.

While Fashion Revolution CIC takes great care to screen the credentials of the contributors and make every attempt to review the contents, Fashion Revolution CIC does not take responsibility for the viewpoints expressed or implied, in addition to this the completeness or accuracy of the content contained. The information and education material contained herein is meant to promote general understanding and promote further research and discourse.

Find more lessons [HERE](#)

Care for your clothes, like the good friends they are

Description of the lesson

Firstly the learners are introduced to types of garment care and explained how to care for cotton, denim, cashmere, wool, animal hairs, silk, rayon, lyocell, modal, fleece, acrylic, nylon and polyester.

Then we look at the laundry symbols and detergents we already have at home and see that taking good care of your clothes is very dependent on the right reaction between fabrics and substances.

Objective

Objective of this lesson is to be able to read symbols on the clothing labels and analyse if we are taking the right care of your clothes.

After this lesson you will be able to

- read the symbols on your clothes labels and make your wardrobe last, by taking the best care of them based on this information

Tools and materials

5 garments from your wardrobe (choose clothing items that are each made of different material), all detergents you already have at home, pen and paper

GARMENT CARE:

Process of making the clothes fresh and clean again.

LONGEVITY:

Ability to last for a long time.

Have you ever thought about the fact that by taking good care of your clothes, you can extend their lifetime? Have you ever seen a garment piece destroyed just by the lack of good care taken of it, or incorrect cleaning practice?

Famous actress Joan Crawford used to say: "Care for your clothes, like the good friends they are". So in a nutshell: If you want to make your favourite wardrobe pieces last you need to know what is the best care for them. You can have a hemp shirt and silk dress of the same colour in a monochrome outfit – but how do you think the washing process would be different for each of these items?

Every single material needs a different washing temperature, different laundry detergents and different types of care to make it really last. Your silk dress survives only with delicate detergent washed at 30°C and lower. It doesn't belong in a washing machine at 60°C or dry using heat.

If you were to make that mistake, you can say goodbye to that dress because that would result in it being totally unwearable (silk can be occasionally washed at higher temperatures – what's important is to heat it up and cool it down slowly). It is all about chemistry.

Every garment is made from a material that reacts to the conditions and environment around it. Doing laundry sounds like very boring housework but to do it well, it is actually very scientific!

There are more methods of care you can use:

STEAMING

steam effectively disinfects clothing by killing up to 99 per cent of all bacteria

HAND-WASHING

best choice for underwear, wool, silk and every fabric that needs your delicate care

SPOT-CLEANING

this is an amazing choice when your garment is not dirty all over. Find the information online to find the right advice for your specific stain you want to remove

BRUSHING

good for tightly woven materials (wools and tweeds)

FREEZING

kills most odour-causing bacteria and refreshes your denim garments, when you throw them in the freezer overnight

DRY CLEANING

dry cleaning is the process of cleaning clothing without the use of water, using a liquid solvent instead.

AIR DRYING

best for wool jumpers, cotton t-shirts or stretch leggings and also saves energy

IRONING

doesn't have a big environmental impact but can be hard on your clothes

PROTECTION OF GARMENTS AGAINST CLOTHES MOTHS

clothes moths (or, more precisely, their larvae) prefer fibres of animal origin, including wool, mohair, cashmere, fur, and feathers. To prevent the catastrophe of hatched moths eating your clothes, use lavender bags in your drawers or wardrobe, or other herbal scents

Be careful and try to be environmentally friendly, using biodegradable detergents as the best option.



GARMENT CARE

[noun]

The process of cleaning and caring for garments to support material longevity, excluding toxic ingredients that harm the planet and its inhabitants.

@fash_rev
@celsious_social

entry
level
activist

example:

"Until fashion transitions to a circular system, it's the responsibility of consumers to be mindful of garment care to extend the life of their clothing and produce less textile waste as a result. Designers must provide accurate information on material content to support this, and as consumers, we must educate ourselves on cleaning processes and product ingredients. Collectively, we can protect the health and safety of living beings by avoiding environmental contamination."

@fash_rev
@celsious_social

entry
level
activist

Photo credit: [Fashion Revolution](#)

Cotton

Cotton accounts for 40% of global textile production and supports the livelihoods of an estimated 300 million people across the world. It is woven from the fluffy ball of pale soft fibres that encase the seeds of the cotton plant.

WASHING

Natural fibres can be prone to shrinkage so always wash on a cool wash (max 30°C) or in lukewarm water.

DRYING

Cotton is best dried flat or hang-dried to prevent the need for ironing. If an item requires ironing then best to do so whilst slightly damp or, use a steam setting.



Denim

Denim was invented in 1873 by Jacob Davis and Levi Strauss. Denim is cotton-based, occasionally hemp-based, and can be woven with other fibres to add elements denim traditionally lacks, such as elastane to add stretch.

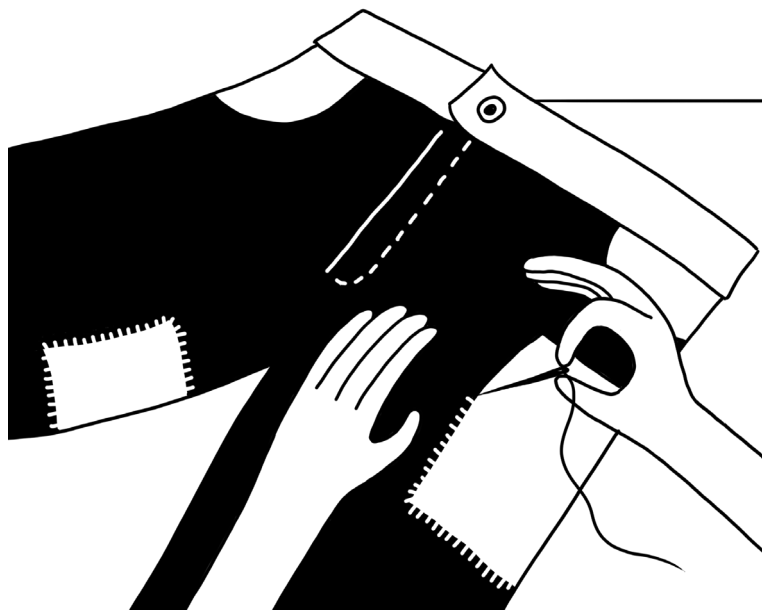
Jeans are the most popular denim product – with 1.24 billion pairs sold annually.

WASHING

Always close zips or buttons and turn your denim garment inside out before washing. If you have to wash them, do so at 30°C.

DRYING

When drying denim, flatten the garment into shape then hang-dry or dry flat. This prevents, or at least reduces, the need to iron the



Wool, cashmere, animal hairs

Wool is a yarn that is created from the fleece of animals such as sheep, goats or llamas or. Individual wool fibres attach together when spun to create yarn, which is then used to create garments. **Wool retains warmth well and is naturally stain and wrinkle resistant and absorbent, which makes it easy to dye.**

WASHING

Like denim, animal hairs should only be washed when absolutely needed. Always use a detergent designed for woollens and wash on a gentle cycle or hand wash.

DRYING

Dry the garment flat and place it in its normal shape. If you hand-washed the garment, place the damp garment flat on a clean towel, roll the towel up and squeeze out excess water.

STORING

Moths love woollens and often leave big holes in clothes. Moths don't like light so regularly worn items are less likely to end up with holes than those left in storage.

Putting cedar wood balls in your wardrobe can help keep them away, or store your woollens in sealed cotton bags as moths don't like cotton. Put woollens in the freezer for 24 hours, take out and bring up to room temperature, keeping it in a sealed bag, and repeat once again to get rid of moths.

Silk

Silk is a luxurious natural protein fibre produced by moth caterpillars in order to spin its cocoon. **Mulberry silkworms feast on the leaves of at least 3 trees to produce 3 kg of silk.** It's a very strong fibre.

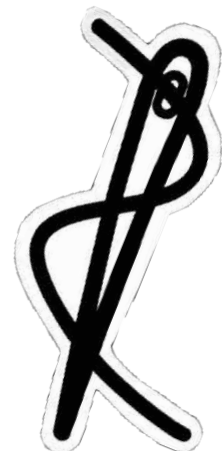
WASHING

Check the label. If prewashed, some silk items can be machine washed but always use the delicate setting or the silk specific programme and wash at 30°C or lower.

For extra protection you should wash silk garments in a mesh bag. If hand washing add $\frac{1}{4}$ cup distilled white vinegar to 3.5 litres of water, unless it has been naturally-dyed. This restores its shine. Submerge and soak before rinsing a number of times in freshwater.

DRYING

Once clean, lay the damp garment flat on a towel and roll the towel up to get out excess water. Lay flat to dry in order to prevent too many creases. Never dry garments on a wooden rack, this can leave stains. Never dry using heat (i.e. on a radiator or in the tumble dryer), this can cause shrinkage or damage.



Rayon, lyocell, modal

These semi-synthetic fibres derive from raw natural materials but are treated with chemical processes in order to create wearable textiles. **Also known as cellulosic fibres.**

WASHING

Turn your clothes inside out before washing in the machine. If hand-washing, use 30°C temperature water with mild detergent and skip the fabric softener. Avoid wringing out rayon (also called viscose) items as this can leave them misshapen.

DRYING

Rayon is prone to shrinkage, so always lay flat to dry. Modal and lyocell are much more resilient and can be tumble dried if absolutely required.

STORING

These sorts of fabrics are not particularly prone to creasing and can be folded in drawers or stored hanging in your wardrobe.



Fleece

Fleece is a fabric made from synthetic fibres and is designed to mimic the qualities of wool. Fleece is made from poly-ethylene terephthalate (PET aka plastic), this means that fleece can be made from recycled plastic bottles.

WASHING

A fleece jacket may shed as many as 250,000 microfibrils per wash, which can release toxics as they break down and poison the food chain once they reach the water supply, and yet the Fashion Transparency Index 2022 found that only a quarter of brands explain what they are doing to minimise the shedding of microfibrils.

Wash your fleece garments with a Cora Ball. Or using a Guppy Friend wash bag in order to reduce the amount of microfibrils reaching our waterways.

DRYING

Avoid tumble drying and ironing fleece. Heat and friction will cause the tiny plastic fibres that make up fleece to melt. Lay flat to dry and prevent creasing.



Acrylic, nylon, polyester

Synthetic fibres are cheap to produce and offer increased durability and diversity of uses compared to many natural fibres.

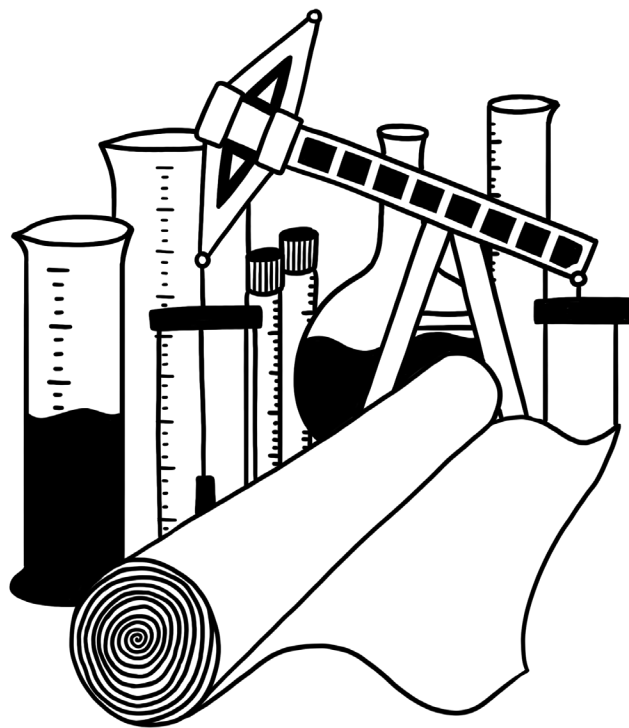
However, these fabrics are not environmentally friendly and can take hundreds of years to decompose.

WASHING

When machine washing clothes made from synthetic fibres, wash them with a Cora Ball or using a Guppy Friend wash bag in order to prevent tiny microfibrils from polluting the water supply.

DRYING

It's best to hang dry synthetic garments. They shouldn't need long to dry. Never tumble dry synthetic fabrics as this weakens and damages the fibres quickly.



EUROPEAN LAUNDRY CARE SYMBOLS






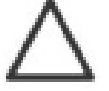
















































								
Machine wash	Machine wash, permanent press	Machine wash, delicate	Hand wash	Do not wash	Bleach	Do not bleach	Non-chlorine bleach	Non-chlorine bleach
								
Water temperature 30°C	Water temperature 40°C	Water temperature 50°C	Water temperature 60°C	Water temperature 70°C	Water temperature 95°C	iron	Do not iron	No steam
								
Water temperature 30°C	Water temperature 40°C	Water temperature 50°C	Water temperature 60°C	Water temperature 70°C	Water temperature 95°C	Low temperature	Medium temperature	High temperature
								
Tumble dry	Low heat	Medium heat	High heat	No heat	Permanent press	Delicate	Hang to dry	Drip dry
								
Short cycle	Reduced moisture	Low heat	No steam finishing	Dry	Dry flat	Dry in the shade	Do not dry	Do not tumble dry
								
Do not dryclean	Dryclean	Any solvent	Any solvent except tetrachloroethylene	Petroleum solvent only	Wet cleaning	Do not wet clean	Do not bleach	Do not wring

Photo credit: [The maids](#)

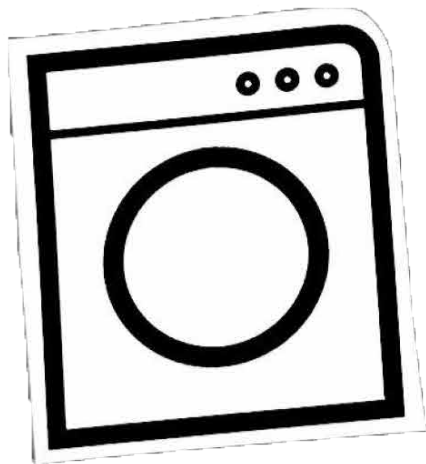
Task

Take a list with symbols and look at the labels of each of your clothing pieces you have prepared for this activity.

Compare the symbols with your detergent.

Write down if you can give your garment the best care or not.

And depending on your answer, think about why this is?



Reflection

Did you make some mistakes in your care? Will you change anything to take better care of your clothes?

Today the **average household washes clothes as often as 3,2 times per week** and all too often at a higher temperature than needed.

Furthermore, **90% of all clothing is discarded far earlier than is needed**, with as much as **70% thrown out due to faded colours, shrinkage and misshaping** – the way that we wash and dry clothes has a huge impact on both the longevity of clothes and the environment. But many of our clothing care habits have barely changed since the 1950's.

Some tips for care according to 'The care label project'

WASH LESS

- Consider other options aside from washing clothes. Sometimes it is enough to air them or steam them. This is very simple: just to hang clothes outside on a washing line or on a hanger in a steamy bathroom.
- When you do wash your clothes, do full loads and use a machine with a modern laundry technology that can adjust the cycle with the weight of the load.
- Wash your clothes inside out. Wash like-with-like, e.g. separate lights from darks and lightweight fabrics from heavy weights. Empty your pockets. Close zips, hooks and ties.

WASH AT LOWER TEMPERATURE

- Use the coolest, gentlest cycle possible for the type of clothes you are washing. The temperature provided on the care label is only the highest safe level for that particular fabric.
- With modern washing machines you can easily get your laundry clean at 20 or 30 degrees lower than the specified maximum. As much as 60% of the energy can be saved by washing at a lower temperature also causes less strain on clothes, making them last longer.

Tip: Wash at 30° or lower.

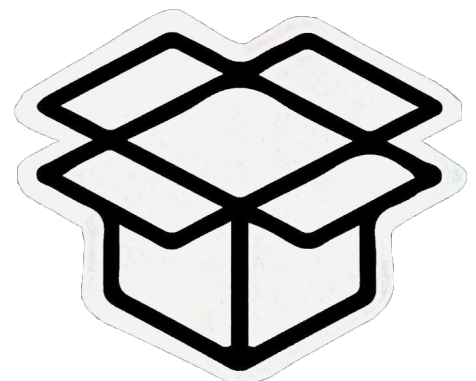
DRY CLEAN ONLY IF YOU HAVE TO

- Dry cleaning involves chemicals that have a negative effect on textile fibres, the environment and your skin. Yet still as many of us 55% of it is dry-clean, often without being truly satisfied with the result.

What people might not know is that many 'Dry Clean Only' clothes could have been washed in a regular machine, causing less stress on both our clothes and our planet. However, if the item is made of very delicate material such as cashmere, fur, sequins, or has sewn on pearls and beads, it may need to be dry-cleaned.

FOLDING AND STORING

- Best not to jam your wardrobe full of clothes. Give your clothes some space to breathe. The more you stuff them together, the more creased they will be.
- Store your clothes in a cool dark place, away from natural sunlight to prevent fading.
- Cheap plastic or wire hangers will stretch out the shoulder of a garment, while wooden hangers are best for men's suits or heavier items.
- Always roll your knits.
- Don't keep suits or dresses in plastic covers. Plastic harbours heat and moisture, which is bad for your clothes – only use canvas bags and or pillow cases to store your occasion-wear, or anything prone to moth damage.
- Keep your shoes and bags in dust bags to avoid dirt and damp and stuff them with tissue paper to help keep their shape.



Resources

Garments Merchandising. Flow Chart of Wet Process in Garments Washing. 2015. Available from: <https://garmentsmerchandising.com/flow-chart-of-wet-process-in-garments-washing/>

Fashion Revolution iSSUE #2. Loved clothes last. Published by Fashion Revolution in 2017.

Alex Arpaia. Rose Maura Lord. How to get rid of clothes moths. 2022 Available from: <https://www.nytimes.com/wirecutter/blog/how-to-get-rid-of-clothes-moths/>

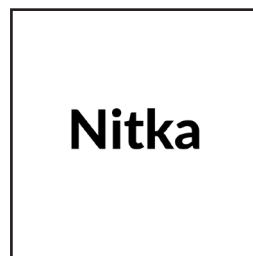
Orsola de Castro. Loved Clothes Last. How the Joy and Repairing Your Clothes Can Be a Revolutionary Act. 2021- Published by Penguin Random House OK.



Authors

Hana Kubrichtová, Fashion Revolution Czech Republic
Zuzana Ryšavá, FR Czech Republic

Partners



With the support of
the Erasmus+
programme
of the European Union





FIND MORE LESSONS [HERE](#)