

Geography

T-Shirt production

RecyCOOL Lessons

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T-shirt production

Description of the lesson

First we are going to learn about the history of T-shirts. After that we move on to where cotton is produced, as it is the main material for making T-shirts. Then, we will dive deeper into the T-shirt making process, step-by-step. We will learn about the biggest T-shirt exporting countries, the prices of the T-shirts and then do a small task by examining our own wardrobe for T-shirts, checking labels and finding producing countries on the map. After that we will think in groups of solutions on how to lower the impacts of T-shirt production. Finally we will look at some solutions on what we can do when we need a new T-shirt.

Objective

Objective of this lesson is to raise awareness of how massive the production of T-shirts is across the world, and to name some of the biggest producers of T-shirts in the world.

After this lesson you will be able to

- understand the history of the T-shirt and how its purpose and role in fashion has changed over time
- see the big picture of T-shirt production across the globe
- a brief introduction to the production of cotton
- name some of the biggest T-shirt producing and exporting countries in the world
- make more responsible choices when buying T-shirts

Tools and materials

a world map, a couple of owned T-shirts (with labels for identifying the producing countries, and the materials used - this will mean we can work out the percentage of cotton in our own closets)

T-SHIRT PRODUCTION:

Process of how our T-shirts are made in factories



Do you have T-shirts? I am sure you have more than just one. But do you know how they are made?

This lesson focuses on their production and where they are exported in the world. Let us think about these questions:

**What do you think most of your T-shirts are made out of?
Is it made in your country?**

When you have finished guessing, we will move on to the next part of the lesson.

Who made them first?

The first T-shirts were made in 1898, during the Mexican–American war for the US navy as undershirts and in 1920 the US navy started to use them as standards. It was practical and was worn only under the proper navy shirts. During the 1950s, the T-shirt was worn on its own – rather than underwear – by good looking movie stars like Marlon Brando and James Dean. This made the T-shirt an iconic piece of clothing worn as outerwear, and still rules the textile industry today, supplied by many fashion brands.

What is a T-shirt made of?

Majority of T-shirts are 100% cotton, and polyester, or a cotton/ polyester blend. Some manufacturers may use eco-friendly organic cotton and natural dyes. The dyeing and bleaching process uses a lot of heavy chemicals which produce wastewater.

- The fashion industry is a major contributor to water pollution (due to dumping contaminated wastewater in waterways) and one of the most water intensive industries on the planet.
[According to Fashion Revolution research which looks at 250 of the world's largest brands and retailers across a range of human rights and environmental indicators finds that just 11% of brands publish their supplier wastewater test results.](#) This is particularly shocking considering more than 20% of the world's GDP is produced in water-scarce regions. Transparency on wastewater test results is key to ensuring that brands are held accountable for their potentially devastating impacts on local biodiversity, garment workers and their communities.

Where is cotton produced?

Let us now look at the [leading cotton producing countries](#) in the years 2020/2021: China, Bangladesh and India.

How are the T-shirts made?

After deciding on the style, the pattern is made for the garment out of paper. The pattern pieces are cut out from the fabric, which are then assembled together one by one in a certain order, depending on the style. Usually front and back pieces are assembled first (if it is not out of a tube), then the sleeves are added, and the last stitches are the hem and the neckband. Labels are added which provide information about the brand, the size, the material content and the care instructions. The finishing elements for function or decoration are added here. At the end, the T-shirts go through a quality control and after that they are steam ironed.

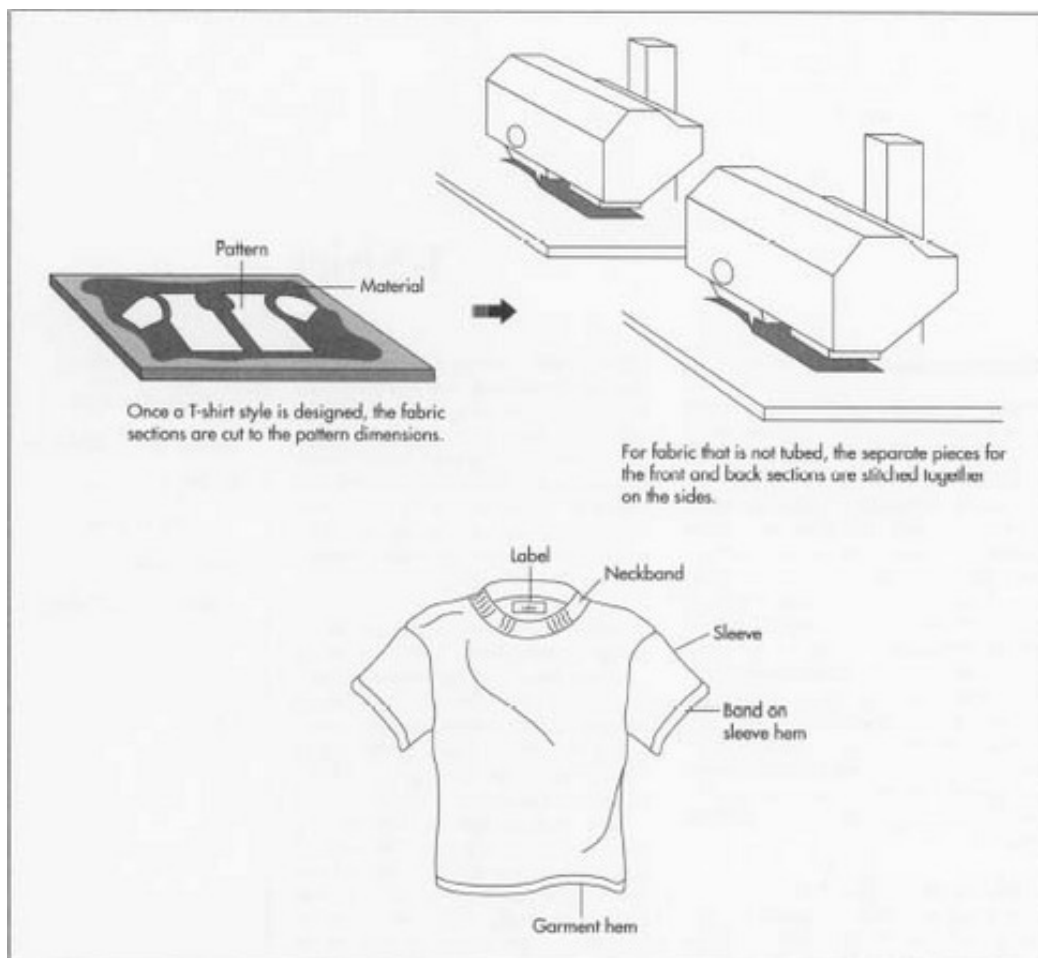


Photo credit: [Made How](#)

Why is a T-shirt cheap?

Usually a blank T-shirt is around 1\$-4\$ per piece to produce, depending on quality of material, colour of the material, the location of the production and the cost of workers' wages.

We can see that in general the price depends on the end of the production chain, where mark-up (profit-making) happens, let's say brand name, marketing, etc. This profit mark-up happens at the buying or supplying stage in the country the T-shirt is exported to. Otherwise a plain T-shirt is cheap but comes at a cost to workers and the environment. Most of the people who make our clothes earn so little that they are trapped in poverty. These workers, mainly women, earn on average 45% less than they need to meet their basic needs to cover costs like food, healthcare and housing.

\$15 SHIRT COST BREAKDOWN BY PERCENTAGE



Photo credit: [Grain Creative](#)



Photo credit: Alison Simmonds

Task

Go to your wardrobe and take out some of your T-shirts – a minimum of 3. Please make sure they are cotton T-shirts, if possible. Guess which countries they were made in and what is the percentage of cotton in them.

(VISUAL of labels with 100% cotton, 90% cotton, etc.)

**What is the material you have the most percentage in?
Which country was it manufactured in? Please check that country on the map. Can you find it?**

If you are interested, you can find more information on the internet or in your school's library regarding the topic of T-shirt production around the world.

Reflection

After understanding that most of our T-shirts come from far away countries, think about how it is possible to buy ones that are made closer to you. Check for sources if there is production on your continent!

If you found some of those countries on your continent, think about why it is possible to produce there?

Overall – What would you do in order to reduce the environmental impacts of T-shirt production? See the picture below and add your thoughts for each step!

You completed the main task and you did well. But what now? What to do next time when you need a T-shirt?



Photo credit: [Barn Hardt](#)

You completed the main task and you did well. But what now?
What to do next time when you need a T-shirt?

Solutions:

- choose second hand to keep the already-produced cotton garments in the cycle
- choose garments from recycled materials
- wash your garments according to the labels to keep their quality as long as possible
- choose good quality garments
- #LovedClothesLast -- mend and repair your t-shirts as needed
- borrow from family and friends
- think twice about whether you even need a new T-shirt!

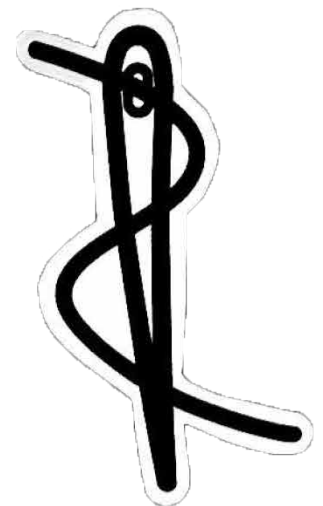


Resources

Daniel Workman. T-shirt Exports by Country. 2022. Available at: <https://www.worldstopexports.com/t-shirt-exports-by-country/>

Prasanta Sarkar. Step by Step Guide to T-Shirt Manufacturing for Business. 2016. Available at: <https://www.onlineclothingstudy.com/2016/02/step-by-step-guide-to-t-shirt.html>

The industry we want. The industry wage gap. 2023. Available at: <https://www.theindustrywewant.com/wages>



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