

Maths

Textiles around us

RecyCOOL Lessons

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Textiles around us

Description of the lesson

At the beginning of this activity you will discover the areas of our lives that are producing textile waste. You will read and learn about how and where textiles are being used throughout our daily lives – not just in our clothing – and how much of this is produced worldwide.

Then you will move on to reviewing your own wardrobe (or part of your wardrobe) and you will learn to translate this through calculations, into percentages and fractions. At the end of the activity you will review the outcomes and think about your own feelings on the subject. You will close this lesson by trying to name at least three examples of textile waste in your surroundings.

Objective

Objective of this lesson is to calculate what percentage of your wardrobe is being fully used, and how much can be considered as textile waste if the clothing does not find a purpose. You will also name at least 3 other areas where sources of textile waste are present in your surroundings.

After this lesson you will be able to

- recognise the main resources of textile waste in our society and identify at least three of them in your surroundings
- calculate in percentage and fractions how much of your wardrobe is or was used, and consider how you feel about the outcome.

Tools and materials:

Clothing from your own wardrobe, a calculator, a pen and some paper

TEXTILE WASTE:

Textile waste is a waste generated anywhere in the textile value chain, from textile and clothing manufacturers during any stage of the production of clothing, its transport and consumption, to the end-of-life stage of the garment.



Textiles play a major role in our lives. Many of our everyday items and objects are made up of textiles.

Are textiles used only for making clothing? Or are there other areas of your life where you can find textile products too? Can you name three other areas or ways where textiles are encountered or used in your daily life?

(You can imagine your day step by step from the moment you wake up until the moment you go back to sleep in the evening. Consider the place where you live, work, study, play sports, socialise, etc).

We mostly perceive textiles as something that our clothes are made of. **The reality is, textiles make up many of the objects and items that surround us in our routines and everyday life – not just clothing!**

Textile is used in all these areas and places:

Food industry

coffee filters, oil filters and tea bags are made from textile non-woven materials, textiles are used to cover plants and trees to protect from weather and insects, etc.

Building industry

textiles are used for thermal and sound isolations, roofing materials, wall coverings, blinds, window screens, etc.

Furniture production

interior and household textiles (beds, sofas, chairs, mattresses – filled in and covered by textiles. Upholstery materials, curtains, rugs, draperies – these are all made of textiles. In a household you can find linens and bathroom items such as towels, sheets, pillowcases, bedding, blankets

Healthcare

disposable clothing, surgical masks, respirators, bandages, gloves, casts for broken bones – many life saving devices in healthcare contain textiles too

Transportation

textiles are used in interiors of all transportation vehicles, but as well in brake linings, gaskets, seat belts, air bags and filters

Protective textiles

firefighters and race-car drivers wear apparel made of textile resistant to high temperatures, textile is used in bulletproof vests, sports players use protective helmets and pads made of textiles

Sports and recreations

fishing rods, balls, life jackets, artificial playground surfaces are all made from textile materials

Miscellaneous

many examples are not seen as textiles – book bindings, dental floss, artificial flowers, candle wicks, toothbrushes, – these all contain textile materials that are often overlooked

Once this textile material product serves its purpose (or many times even sooner), it is destined to end up as a waste. This also includes textile waste produced by us – consumers.

Globally, an estimated 92 million tonnes of textiles waste is created each year and the equivalent to a rubbish truck full of clothes ends up in landfill sites every second.



Task:

For this task you can use [Wardrobe Clearance activity](#).

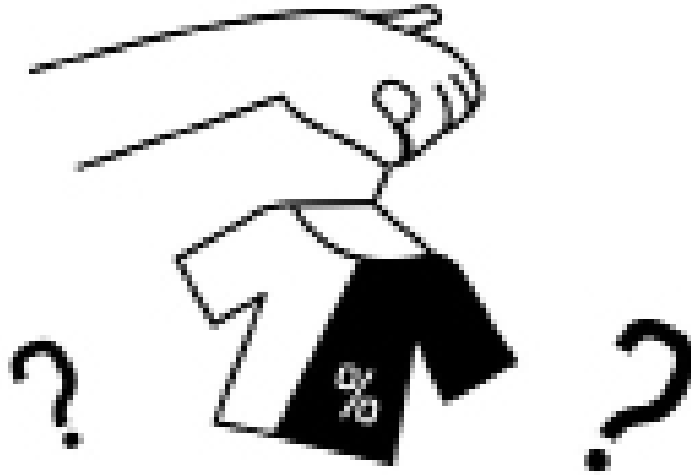
If you didn't take part in this activity, you can do this very simply. Go to your wardrobe and decide which part of your wardrobe you will be using for the activity with – as an example, let's say you will pick t-shirts (but it can be a different item such as jeans, or a category of clothing – such as only your sportswear)

Count how many t-shirts you own, and count how many of them you really use. Fold the ones you don't use and put these on a separate pile, to be gifted or given for further use. Make sure you count these too. Write all these numbers down – we will be working with these numbers in our next steps.

Calculate the percentage of your unused garments in relation to the initial number of fashion garments you own/or counted at the very beginning of the exercise. Let's move onto the next calculation activity to learn how we will do this.



Calculation



$$\frac{\text{Number of unused garments}}{\text{Total number of garments}} \times 100\%$$

Photo credit: [Lucie Holikova](#)

How many percent of garments or items of clothing in your wardrobe were unused, and are now being separated from the ones that you enjoy and use?

Can you put this percentage into a fraction?

(How big a portion of your wardrobe or the part of it you were investigating is not used – one third, one quarter, half...).

Let's go one step further – can you express this visually, for example through a pie chart?

Reflection

After completing this task, pause and think about what these calculations are telling you about your wardrobe.

Does the result surprise you or is it something you did expect?

Do you consider the number of unused garments high or low?

Does the unused clothing from your wardrobe now become textile waste?

What will happen to it now?

Could you think of ways to reduce the number of unused garments in your wardrobe?

Write down on paper your initial feelings and your thoughts about your unused clothing potentially becoming waste.

To close this lesson, we will do one more task:

Consider the place where you live, your everyday life (except your wardrobe) – and name at least three examples of textile waste in your surroundings. For example, any textile materials or products you can think of that you come across in your daily life.

You can have it as a day task – wherever you go or whatever you do, from morning till evening, pay attention to the textiles that are surrounding you. **You can do this visually and map out your daily routine – at each point in the day you can try to list/draw/visualise objects you interact with or come across at that point in your routine.**

Resources

Kaity Cornellier. The Actual Definition of Textile: It's Surprisingly Different from Fabric. 2020. Available at: <https://www.contrado.co.uk/blog/definition-of-textile/>

Amy Willbanks. The importance of textiles. 2008. Available at: <https://www.fibre2fashion.com/industry-article/3396/the-importance-of-textiles>

Charles S. Whewell. Textile consumption. Available at: <https://www.britannica.com/topic/textile/Textile-consumption>

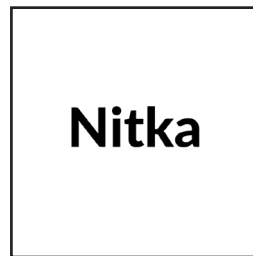
Attachment

To learn more on [textile waste](#)

Author

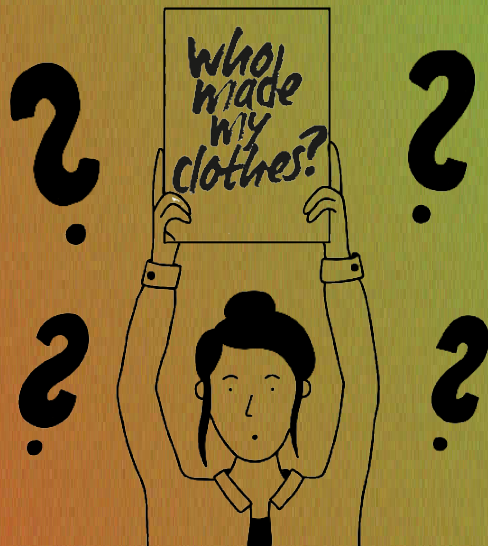
Martina Marekova, Fashion Revolution Slovakia

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