

Title: Sustainable Fashion Design

Big Idea: Reducing Fashion Waste

Essential Question: How do we create sustainable slow fashion while encouraging self-expression

School/Organization Name: Ridgemont HS

Location (City, State/Province, and Country): Ottawa, Ontario, Canada

Engage:

What challenge does your project address?

This project addresses our over reliance on Fast Fashion, cheap clothing that is made to wear out quickly, be replaced, and end up in a landfill. We would like to divert previously existing clothing from landfills by repurposing the clothing, chopping it up to make different clothing or mending and resizing it in order to be wearable again. We would like to use pre-loved fabric or scraps from other projects as well.

Why did your team select this topic or challenge?

SDG 12: Responsible consumption and production.

We would like to address and combat the over-reliance on fast-fashion and encourage responsible construction and production of clothing and accessories

Engage:

How is it a real world problem or concern?

This issue affects consumers (mental health issues and financial strain due to overconsumption and always trying to be the most up to date), workers (underpaid and overworked workers in low income countries who are taken advantage of), and the environment (waste on an increasingly alarming level).

Fast Fashion It is the second-biggest consumer of water and responsible for 10% of global CO2 emissions.

[\(https://earth.org/fast-fashions-detrimental-effect-on-the-environment/\)](https://earth.org/fast-fashions-detrimental-effect-on-the-environment/)



Investigation:

Through group discussion we agreed that fashion is important as a form of self expression, but that the pace of the fashion cycle is unsustainable both for the planet and for individual mental and economic well being.

Stores like Zara and H&M, and online retailers like Temu and Shein encourage overconsumption at an artificially low price which harms the consumer (through the creation of an unhealthy mentality which ties self-worth to new clothes), the worker (underpaid factory workers), and the planet (through the normalization of throwing away clothing after only a few wears, as well as water pollution, spreading microplastics, and overharvesting fibre crops such as cotton).

According to an analysis by Business Insider, fashion production makes up 10% of global carbon emissions. The Fast Fashion Industry dries up water sources and pollutes rivers and streams, while 85% of all textiles go to dumps each year.

(<https://earth.org/fast-fashions-detrimental-effect-on-the-environment/>)

Investigation:

We landed on the concept of Slow Fashion as a solution to explore. Slow Fashion advocates for manufacturing that respects people, the environment and animals, and comprises of four main branches:

- 1) The manufacture of clothing that reuses materials and maximize their useful lifespan
- 2) Buying second hand clothing (ie from thrift shops like Value Village or Salvation Army, or second-hand websites like Vinted or Poshmark)
- 3) Renting clothing (especially occasion-wear)
- 4) Sewing your own clothes, or clothes made-to order using remnants of material and/or repurposing old garments

Investigation:

In order to execute our plan we realised that we needed more sewing machines (we were previously working with two old family-studies machines from the 1970s for the entire group of students). With the funds from Ciena we were able to purchase three all-metal sewing machines. This was important because we wanted machines that would last and would be able to be maintained and repaired easily.



Action

We began our journey with two main starting points for a solution concept that we could help execute, while supporting self-expression:

1. Reducing consumption by modifying clothing that is already owned
2. Creating new clothing using donated/excess fabric and/or reworking previously existing second hand clothing



Action: Creating new clothing using donated/excess fabric and/or reworking previously existing second hand clothing

Our first step was to put out a call for old or leftover fabric. We received several large tupperware bins of fabric from numerous individuals (which ranged from jersey fabric from the 1980s, to leftover puffer-jacket material from a just-completed project!) We received donations of buttons, zippers, thread, snaps, and even several pattern-making tools.

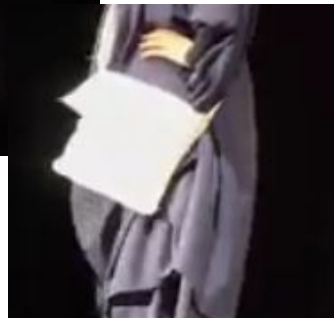
Additionally, we made several visits to various second hand clothing stores. These included our local salvation Army Store, and Value Village, as well as our school-based, volunteer-run second-hand clothing store. We chose clothing and/or sheets with interesting designs, those with a baggy fit, or those with fabric in good condition.

Action: Creating new clothing using donated/excess fabric and/or reworking previously existing second hand clothing

Next we came up with concept sketches, mapped out which materials worked best with which idea, and started creating the patterns needed to transform the pieces.



Action: Related output: Bags



Action: Related output: Clothing



Action: Related output

Fashion Show:

https://drive.google.com/file/d/1mgRv3RObjmq_twNi8vV0sXTBu7Bi9ad5/view?usp=drivesdk



Action: Impact

Several immediately apparent positive effects were observed:

- Participants regularly wear the clothing they created and/or modified.
- Several participants have started small businesses selling clothing they create from donated fabric and/or pre-loved clothing
- Several participants have been taking commissions for clothing created from pre-loved clothing and donated fabric
- Participants universally agreed that they have heavily reduced or eliminated fast-fashion purchases, and have continued to create, mend, and modify clothing since completing this phase of the project



Action: Related output

Student video

<https://drive.google.com/file/d/171SYRv1QOfm6T6ypL7J40c6mgZrDdL9N/view?usp=drivesdk>



Action: going forward

Though the three machines have been a HUGE help, we all agreed that a few more machines and one or two sergers would be incredibly helpful. We have found a second hand sewing machine and serger shop that refurbishes old machines and sells them. We believe purchasing from this retailer would further our goals of sustainability by making use of previously loved machines as well as previously loved clothing and fabric.

Purchasing a few more large storage bins in order to better organize the fabric would also be very helpful.

These purchases would help us scale the operation and start looking at designs themselves that would be more sustainable, as well as creating models for a sustainable fashion business (or businesses!)

