

Getting started with GCSE Design and Technology

# Sustainability matters in Textile Design

# Inspirational designers and products



Katherine Hamnett designer with a message!



Bag made from car inner tubes and other reused materials.



Boots made from environmentally friendly materials and a fair wage for workers.

There are some amazing designers and products out there.

Use the internet to find out more about one of the suggested companies in the following slide.



# Inspirational Textile Designers



Katherine Hamnett designs  
<http://www.katharinehamnett.com/>



People Tree  
<http://www.peopletree.co.uk/>



Patagonia  
[www.patagonia.com](http://www.patagonia.com)

Find out about one of the companies on this slide and record

- Details of one or more products
- Anything about why they make their products in the way they do
- Anything else that interested or surprised you that you liked or didn't.

# You've looked at the work of a designer and their products....

Now write on a piece of paper any **words or phrases** that you think link to **SUSTAINABILITY** from the work of the designer or products you've looked at.



**Make a class word bank**



# So what's sustainability got to do with my GCSE in D&T?



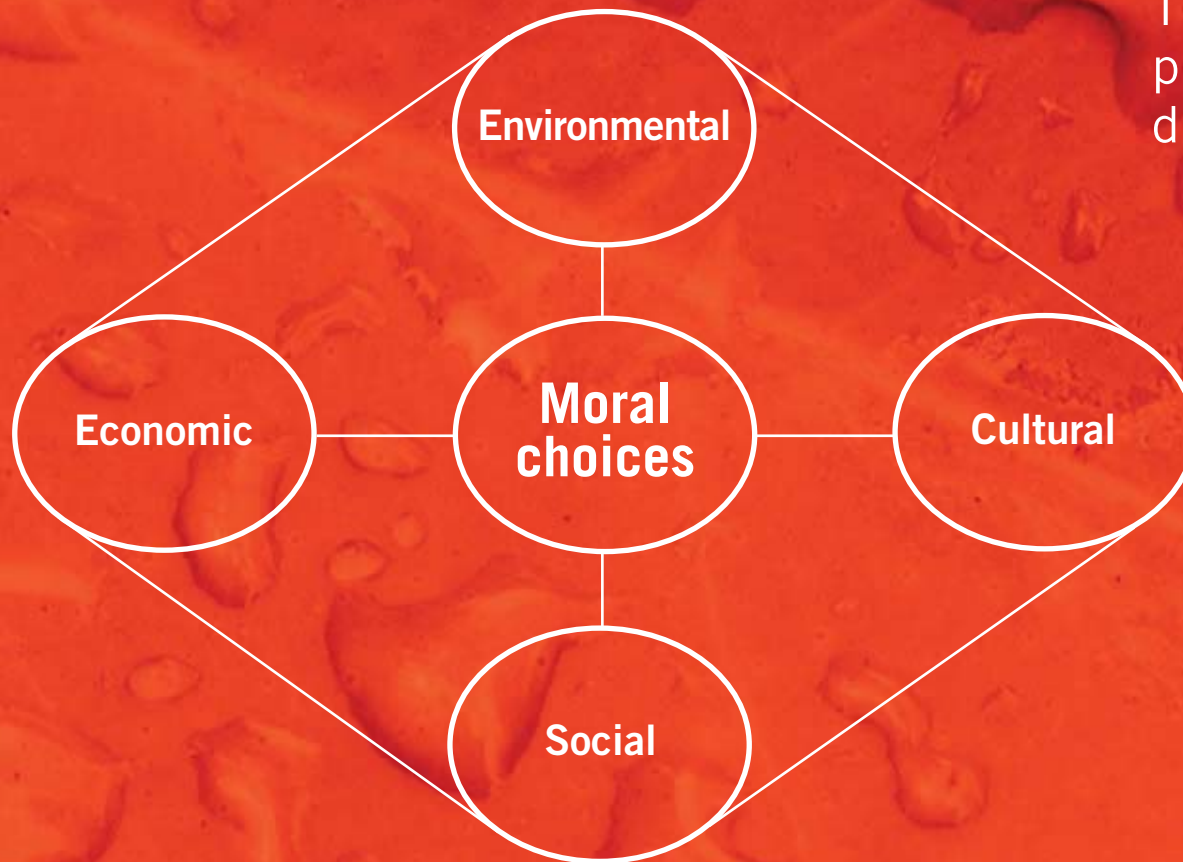
Every **designer and maker** is making **choices** about the product they design. Lots of those decisions link to sustainability issues.

In your coursework and final exam paper – you will need to demonstrate your understanding of sustainability.

**So let's get started.....**

# Sustainability has different dimensions. It's helpful to think of four main areas.

These dimensions can present **moral/ethical** dilemmas for designers.



# Four dimensions of sustainability – they all need to be considered.

## Environmental

e.g. How much of the planet's resources does my product use?

## Cultural



e.g. To what extent does my design affect cultural values and traditions?

## Social



e.g. Is my product designed to improve the quality of life for its users?

## Economic



e.g. Is everyone involved in the design, manufacturing, using and disposal of the product getting a fair deal?



# How do the four sustainability dimensions link to a t-shirt?

Using the sustainability dimensions diagram, work out which labels from the T-shirt fall under each dimension.



Washable at 40°

Fair wages for workers in Turkey

Designed to last  
– good stitching

Suitable for all occasions?

Great for play/beach wear

Sold for £15

100% organic cotton



Find out more about the T Shirt from <http://www.howies.co.uk/section.php/81/0>



# What's the problem for Textile designers?

## A throwaway society?

We throw away one million tonnes of textiles in the UK every year. At least 50% of what we throw away is reusable or recyclable, yet we only recycle 25%

The average lifetime of a textile garment is only three years

## Fair deal?

Many of the workers involved in producing low-cost clothing are children and women who are working in poor conditions for low wages.

## Energy wasted?

If everyone in the UK bought one reclaimed woollen garment each year, it would save an average of 371 million gallons of water (the average UK reservoir holds about 300 million gallons) and 480 tonnes of chemical dyestuffs. (Evergreen)



# Life cycle analysis

This can be used by textiles designers to help them understand the environmental impact of a product from growing of materials to final disposal.

- **What materials were used?**  
(e.g. impact on land used to grow cotton)
- **How and where was it produced?**  
(e.g. energy, water and chemical used in dyeing and printing? In which country was it made?)
- **How was it distributed?**  
(e.g. ships used to transport cotton, lorry used to transport to shops)
- **How was it advertised and sold?**  
(e.g. internet, flyers, shops)
- **How was it used?**  
(e.g. was it designed to last? Include impact of washing and ironing T-Shirt)
- **How was it disposed of?**  
(e.g. landfill or recycled/reused.)





# In your designing and making it will help if you use life cycle analysis.

## material choice



## production



## distribution



## use

- You can show how making, selling, using and disposing of a product can have environmental impacts
- You can suggest ways of reducing those impacts
- You can show you have thought about the impacts on people (social), jobs (economic) and values/traditions (cultural)
- The following slides suggest how to do it by looking at different products



## disposal

# Let's have a look at a drinks can...



Mining bauxite ore



Work conditions



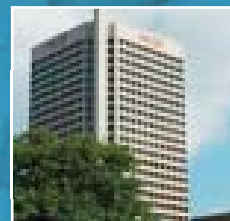
Transporting ore



Factory making cans



Cans to drinks factory



Factory filling cans



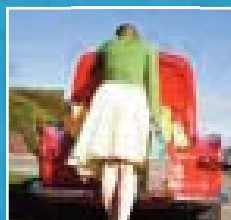
Warehouse store



Cans to shops



Cans stored in shops



Cans taken home



Cans drunk



Cans thrown away



Cans collected



Recycling plant



# Now you have a go at life cycle analysis!

**Look at a jeans label to find out information about where they were made.**

Now trace the impact of the denim used, from choice of materials through to disposal.

**What materials were used?**

(e.g. impact on land used to grow cotton)

**How and where was it produced?**

(e.g. energy, water and chemical used in dyeing?  
In which country was it made?)

**How was it distributed?**

(e.g. ships used to transport cotton, lorry used to transport to shops)

**How was it advertised and sold?**

(e.g. internet, flyers, shops)

**How was it used?**

(e.g. was it designed to last? Include impact of washing and ironing jeans)

**How was it disposed of?**

(e.g. landfill or recycled/reused.)



**Where's the impact of a pair of jeans during their life cycle?**



# You know about product impacts, so how can you try to reduce them?

There are six ideas you can think about. All the exam boards use them so it makes sense to understand what they mean.

## Activity

1. Try to match the words to the correct definition.
2. Think about how important each word is in making the world a more sustainable place. What's best? What's worst?



**REFUSE**

Use a product to make something else with all or parts of it

Cut down the amount of material and energy you use as much as you can

**RETHINK**

**RECYCLE**

When a product breaks down or doesn't work properly, try to fix it

Don't use a material or buy a product if you don't need it or if it's bad for people or the environment

**REPAIR**

**REUSE**

Reprocess a material or product and make something else

Do we make too many products? Design in a way that considers people and the environment

**REDUCE**





# How can you use the six Rs?

Design and make something for yourself by reusing an item of clothes or textiles that you no longer use.

- Before you start think about the six Rs and try to work out how you could use them in your task.
- What could you **refuse** to use? What could you **reduce**? Is **rethinking** involved? Can you design so that your product could be **recycled** or **re-used** again? Can you design it so it can be **repaired**?



Designer Cerys Marks  
Pouffe from plastic bags

# How well did you get on?

- REFUSE** Did you refuse to use any materials?
- REDUCE** Did you think about cutting your material so that there was little waste? Did you hand construct/sew to cut down on energy use?
- REUSE** Could your product be used again?
- RETHINK** Did you think of creating something that makes you think about reuse?
- RECYCLE** How will you eventually dispose of your product?
- REPAIR** Is it possible to repair it if it breaks?



# Here are some things to think about in textile design...

- RETHINK** can my design have a sustainability message?
- REFUSE** should I use any materials that have been sprayed with pesticides?
- REDUCE** can I ensure I don't waste any material by cutting out carefully?
- REUSE** can I reuse any existing materials?
- RECYCLE** can my product be taken apart or recycled easily at the end of its life?
- REPAIR** can my product be easily repaired?