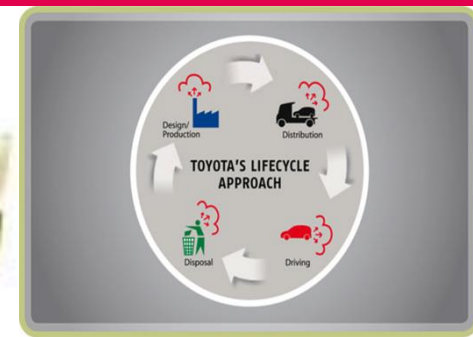


# Lifecycle analysis

Helping to work out the impact of products on people and the environment



# Lifecycle analysis...what is it?

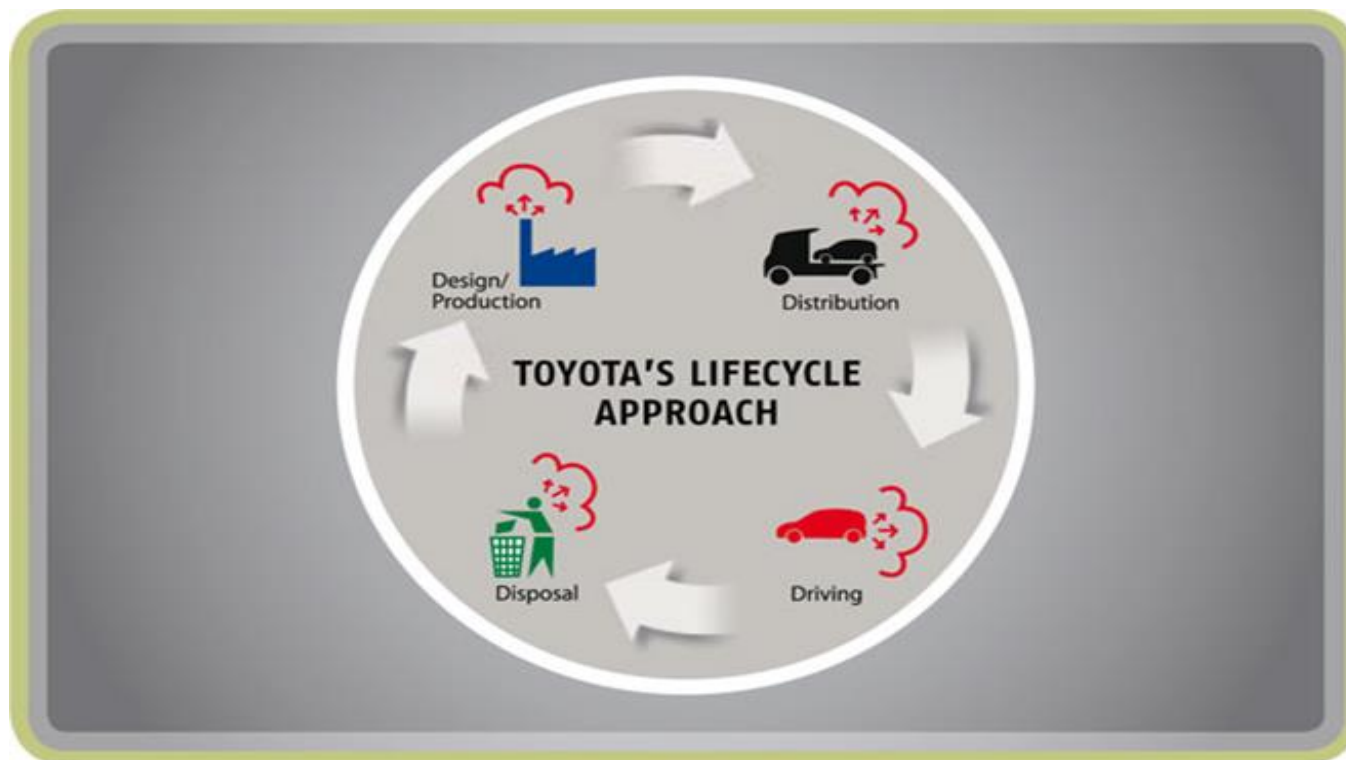
Lifecycle analysis (LCA) is used to work out the **environmental impact** of a product throughout its whole life from extraction of materials through to final disposal.



Look at the two products above - what might be the first stage in each product's lifecycle?

# A company lifecycle...

How many stages do Toyota include in their lifecycle analysis?



Which stage do you think they might look at first?

# Lifecycle Analysis In more detail

Companies are increasingly being asked to account for the impact their products and businesses have on the environment.

They have to calculate environmental impact at each stage of a product's lifecycle. This includes:

- extracting materials
- processing
- transporting
- using
- disposing of the product

# Carbon Footprint...

Another term you may have heard of is **carbon footprint**.

At each stage of a product's lifecycle energy is needed to process, transport and dispose of the product. Carbon dioxide is produced as a by product of energy use.

The carbon footprint is the calculation of the carbon dioxide produced throughout a product's life.

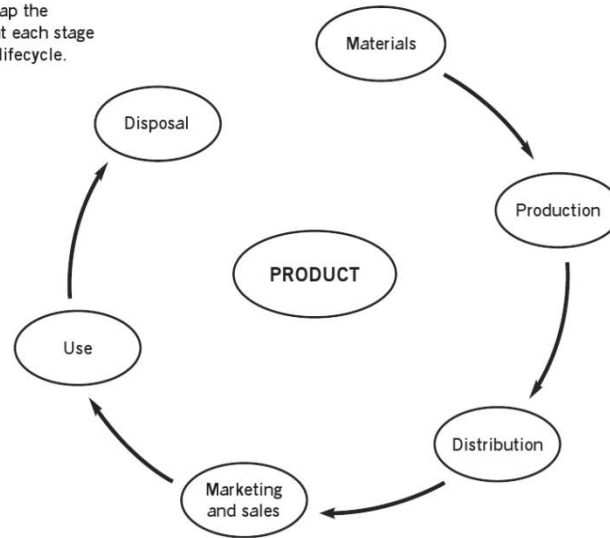


# Have a go yourself...

Use the worksheet provided to help you map out the different stages of a product's lifecycle.

## **PRODUCT LIFECYCLE ANALYSIS**

Activity: Mind map the resources used at each stage of the product's lifecycle.



# LCA activity

## Useful questions to help with the LCA:

- **Materials:** Which materials were used to make the product e.g. plastics, metals? What impact do those materials have on the environment during extraction?
- **Production:** How and where was the product made? Was it made overseas? What energy was involved in its manufacture?
- **Distribution:** How was the product distributed throughout its lifecycle, from sourcing through to final disposal?
- **Sales:** How was it sold and marketed e.g. via the internet, flyers, shops?
- **Use:** How is it used? Does it need more energy/batteries throughout its use?
- **Disposal:** How can it be disposed of or recycled e.g. through charity shops, landfill sites?

# Life Cycle Analysis and people...

Companies can also be held to account for the impact on people throughout the product lifecycle.

Use the same lifecycle analysis worksheet you used to look at the environmental impact of your product to make a list of **people** who might **benefit** or lose out at **each stage** of the product's life. An example is given below.

## Denim jeans

**Materials** - Farmer and workers who grow the cotton.

- Miners who extract the copper for the metal studs.

**Production** - Designers

- Factory workers, who dye the cotton and sew the clothes

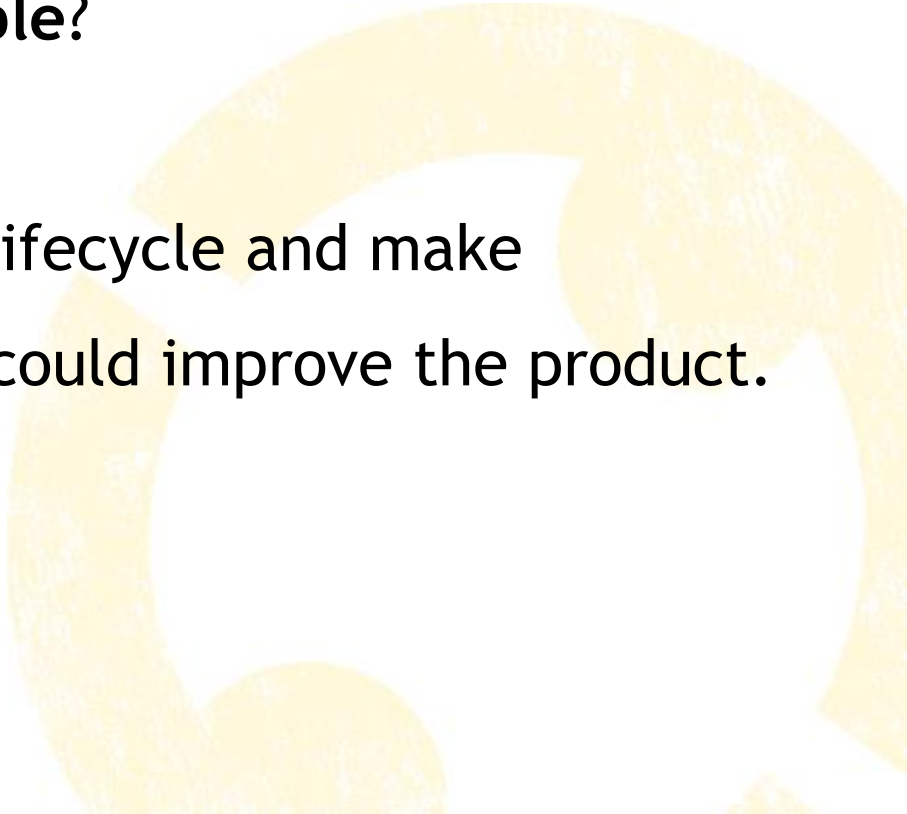




# How can you improve the product?

Now that you've completed a lifecycle analysis how can you make improvements in the design and processing of your product to **reduce** its **impact** on the **environment** and **people**?

Look at **each stage** in the lifecycle and make suggestions as to how you could improve the product.



# Reducing impacts

## Some examples

- Could you choose different materials, or use less of any of the materials?
- Could you ensure the miners and farmers get a fair wage?
- How could you reduce the energy used to transport the product?
- How could you ensure good working conditions for factory workers?
- How could the product be disposed of differently?

# Sustainable companies...

For examples of companies who have chosen to reduce the environmental impact of their products go to ‘Sustainable Companies’ at [practicalaction.org/sustainable-companies](http://practicalaction.org/sustainable-companies)

