

## The 6 R's

**Reduce** - is it possible to reduce the amount of materials used? This will help to protect valuable resources.

**Rethink** - is there a better way to solve this problem that is less damaging to the environment?

**Refuse** - this means not accepting things that are not the best option for the environment. For example, is the packaging really needed?

**Recycle** - could recycled materials be used, or is the product made from materials that are easy to recycle?

**Reuse** - could the product have another use? Could its parts be used in other products? Is this information clearly communicated on the product? This will extend its life.

**Repair** - is the product easy to repair? This will extend its life.



## Recycling

Recycling means reprocessing a material so that it can be used again. This helps to reduce damage to the environment by reducing the need for new materials. For example, this might mean melting plastic parts so that they can be shaped into new products. Symbols are used on plastic products to show the type of plastic used, so that it can be sorted into different types and recycled.



## Product Sustainability and Social Issue's Knowledge Organiser – Design and Technology AQA

### Disposal

At the end of their useful life, most products are disposed of in some way. How this is carried out can have a significant effect on their impact on the environment. A large proportion of products that we use currently end up in landfill – this means that they are buried in underground rubbish dumps. This is one of the least environmentally friendly methods of disposal.



### Products can impact particular groups in society

Products made have to avoid having a negative impact on other people by being sensitive to their needs. Groups of people to consider include disabled and elderly people. When designing products people of different religious groups should also be considered. You may also need to consider the views and feelings of people from a particular culture – that way you won't isolate or offend anyone.



## Social, moral and cultural issues

The designer doesn't just think about the way that a product will work. They also consider how it will be made and how it will be used. This means that the designer has to be very aware of what is acceptable and what is not acceptable to society.

### Issues with making products

Most people would prefer the products they want to be low cost and good quality. One way of reducing the manufacturing costs is using computer controlled machines or robots to make the products. A negative effect of this is that fewer people are employed. A positive effect is that computer-controlled systems create jobs for highly-skilled workers to develop, program and maintain these systems. Another way of reducing costs is to make products in countries where labour costs are low. Sometimes the conditions for workers in these countries are far below UK standards. Pollution may also be higher. There is also an environmental cost in transporting goods all over the world.

## Design for maintenance

Maintenance means any activity which allows the product to have a longer life. It can include anything from repairing worn out parts to replacing batteries. Designing a product to allow repairs may mean including features such as access panels and standard screws. These help to allow parts to be replaced. Alternatively, products might be made from a series of standard modules. This would mean that if it went wrong, only the faulty module would need to be repaired or replaced. Using modular design also makes it easier to upgrade and improve products as there are new developments and improvements in technology.

## Fair Trade

This means that the contents of the package has been produced in the Third World and that the producer (the farmer) has received a fair and realistic price. This provides a financial safety net for the farmers and their workers. It also means that the produce is not from countries, whose Governments help their industry / agriculture undercut those of much poorer countries by giving them subsidises. The Fairtrade system, ensures realistic prices for farmers goods and Fairtrade Standards aim to protect the basic rights of workers and guarantee good working conditions. Currently, there are more than 1.65 million farmers and workers involved in the Fairtrade system.

## Crowdfunding

A person or company looking for funding, sets up a 'page' on a crowd funding website. It is the members of the crowd funding website who may respond to the sales pitch of the person / company. Members may decide to invest and in return they may gain shares in the business. The aim of the members, is to make a profit from their investment. Crowdfunding can also be achieved through using social media, business acquaintances or even family and friends. Making a profit is not always the motivation for investing through crowd funding. Sometimes people contribute because they feel that the project being funded, is for social well-being or for moral and ethical reasons.

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STARTER**