**Sustainability tutorials - Student activities**

**Tutorial One - How can we improve the sustainability of products?**

**1a) What is sustainability?**

Research definitions and images that explain sustainability.

Record a definition and a few images that help you to remember what sustainability is. Record one image that includes the three areas of sustainability.

**1b) What influences my choices of what I buy?**

Think about the last product you bought? What was it?

Make a list of the things you considered when buying it.

**1c) Product life cycle analysis**

Carry out a life cycle analysis on a pair of jeans or any other product that you want to explore. If there are gaps in your knowledge, then you can carry out some research to help you with you analyse your products. Use an A3 piece of paper or a sheet of newspaper to record your life cycle.

Use the headings: ***Raw materials, Manufacturing, Packaging, Distributing, Using, Disposing or end of life.***

**1d) 6Rs definitions**

Match the 6Rs, rethink, refuse, reduce, reuse, recycle, repair to their correct definition. Check your answers with the answer sheet. <https://practicalaction.org/schools/6-rs/>

Use the terms reduce, reuse and recycle to help you think how you can improve the sustainability of your product. Record your ideas on your life cycle analysis sheet.

Ryan – Ok to link to PA’s 6Rs definitions activity or re-do it?

**1e) Impact on people - Winners and losers**

Revisit your product life cycle sheet and using post it notes or a different colour pen annotate the different people involved at the different stages of the life cycle.

Now think overall – are those people ‘winners or losers’. Therefore, do they benefit or lose out from the product?

Finally, make notes of the life cycle of what needs to happen for the people involved to become winners. For example, safe working condition and fair wages.

**1f) Inspirational designers**

Carry out some research into a few companies and/or designers who claim to develop products sustainably. Record your findings about some of their products.

**Tutorial two Sustainability – Where will we be by 2030?**

**2a) What’s the design criteria?**

Choose two of the same products, where one is marketed as more sustainable than the other. For example, bamboo toothbrush vs plastic, plastic drinks bottle vs reusable, socks made with organic cotton vs no organic.

Put yourself in the position of the designer and company who developed the two products. Then decide, what was the likely design criteria they used for the two products? Make a list for both products.

Don’t forget to consider whether the designer had to consider criteria about:

* Environmental issues – choice of materials, where and how the materials were processed and transported, what happens to the product at its end of life (recycled? Landfill?)
* Social issues – did the designer have to consider who would be a winner or loser throughout the lifecycle?
* Economic – who gets a fair deal? How much profit does the product make?

**2b) What role can designers and engineers have to meet these SDGs?**

Have a look at the SDG’s sheet with the 17 goals on and use make notes of any ideas you have of the opportunities for designers and engineers to help meet some of the SDG targets.

**2c) Redesign a product**

A furniture company is looking to improve the sustainability of its product. Look at their proposed design for a bedside cupboard and make any recommendations to improve the sustainability of the cupboard.

Your recommendation could include changes to the design, choice of materials and/or assembly of the furniture. Annotate your ideas of the design below.

Ryan – Suggest you add design here?