

MAKE & REMAKE

#DONTWASTE
DESIGN ACTIVITY



Have you noticed how much waste is generated in our economy every day?
...why that is the case?

It is because our economy follows a linear model - one where we:

Take ▶ Make ▶ Use ▶ Dispose

Take: We take raw materials, which are basic materials that we use to make goods from the natural environment

Make: We make different products out of those materials.

Use: We use the products created for a certain amount of time.

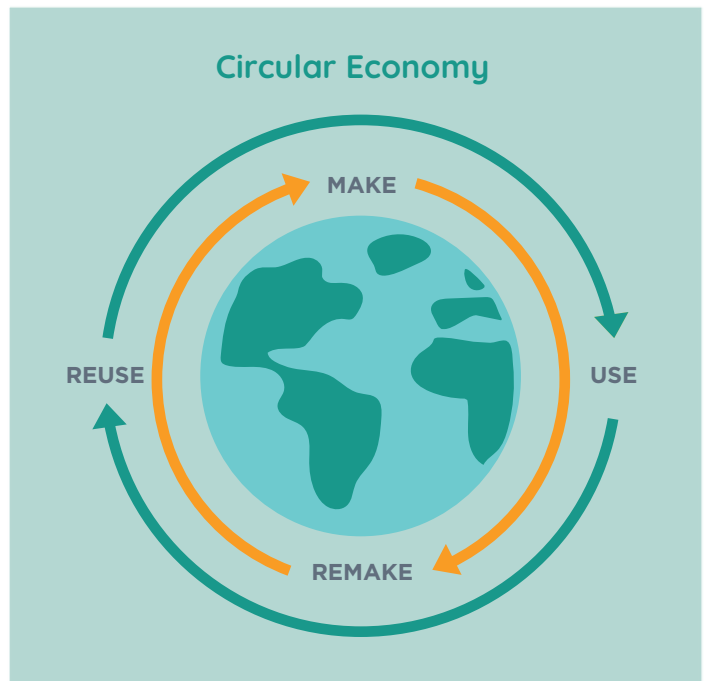
Dispose: After using the product for some time, we throw it into the landfill-a place for discarding all waste that has no use in our economy.

Basically, when we are done with it, we throw it out.

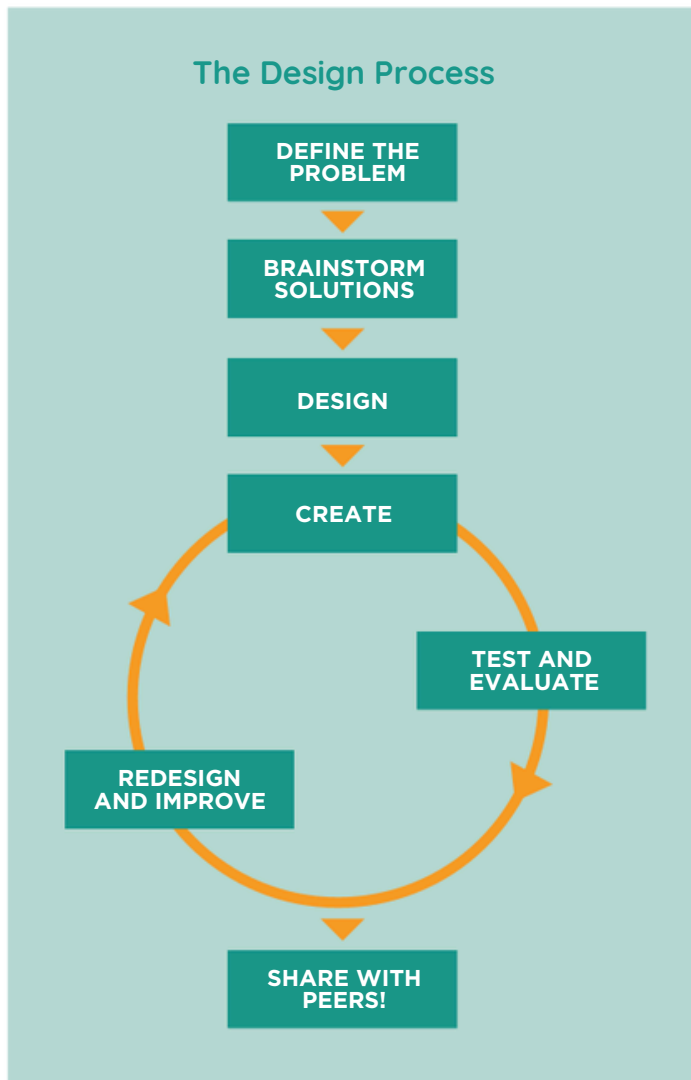
A linear economy works fine for a small community of consumers. But on a global scale with billions of consumers becoming part of our economy, a linear system becomes unsustainable and doesn't work. Currently, we are running out of raw materials to create new products for everyone. Landfills are filling up with the massive increase in disposal of waste - products that are no longer in use. This is a challenge that requires changing the way we think of our economy today.

How can we design a better economic model that reduces waste going into landfills?

We can take inspiration by observing our natural ecosystem to design a better system for our economy. In the natural ecosystem, there is no waste that requires it to go to a landfill. Our natural ecosystem works in a circular system, where all raw materials go back to where they came from like the water cycle. A circular economy works in a similar fashion, where raw materials and products are used and reused as many times as possible to reduce extraction of new raw materials. This also reduces the amount of waste going to landfill.



How can you create something useful from plastic you have around your house? Use your inner engineering skills to create a product from recycled plastics by using the design process given below.



Step 1: Define the problem

- What is the problem at hand? There is a lot of waste generated from discarding plastics, and because plastics live in the landfill for many years, it is not easy to get rid of them.
- Who is affected by the problem? Plastics end up in our waterways, threatening life underwater.
- What has been done to address it? Many companies are making products from recycled plastics.
- How can I help? By creating your own products from discarded plastics.

Psst, looking for Inspiration? Why don't you check our **What to do with Plastics** resource.

Step 2: Brainstorm solutions

- Come up with ideas for solutions
- Share ideas with friends and/or family
- Narrow ideas and pick the best ones

Step 3: Design

- Using your idea, design your solution

for implementation

- Focus on how the product designed will address the problem

Step 4: Create, Test & Evaluate, Redesign & Improve

Step 5: Share with peers!

Product Design Requirements

The final product created should have the following qualifying characteristics:

1. Useful and serves a purpose
2. Created from recycled plastics
3. Can be re-created easily
4. All materials used can be recycled or composted
5. Can be reused again
6. Can be deconstructed to make something new

Suggested Materials

- Plastics at home
- Paper (use discarded paper or newspaper)
- Scissors
- Stapler
- Glue

Students may use other materials if required, provided they are recyclable, biodegradable or compostable.

Presentation

After you have designed your product, it's time to show it off! This can be done in a number of different ways (poster, video, PowerPoint, Prezi, etc) but should include the following elements:

1. Name your product!
2. Purpose of the product (e.g., basket to put things in)
3. Demonstrate how the product design incorporates the principles of a circular economy
 - a. Make > Remake and Use > Reuse
4. Quantity of plastic offset (e.g., 1 L milk jar)
5. All the materials used and quantity of each
6. Time required to create the product