4º
CONCURSO

PROGRAMA DE SENSIBILIZACIÓN EDUCATIVA

HAZLO VERDE

MISIÓN SOMOSLARAÍZ

#PLASTICFREE

UNIT 2 | THE CREATIVE PROCESS APPLIED TO PRODUCT DESIGN

LEROY MERLIN
Da vida a tus ideas

DEMOS VIDA A UN HÁBITAT MEJOR

CONTENTS

1. BEFORE YOU BEGIN

For the first time, we are making you environmental ambassadors in secondary schools. This is because the mission you are being asked to do in this 4th edition of Hazlo Verde is a very important one!

As environmental ambassadors, we want you to devise and develop a product made with recyclable or ecological materials to help with an environmental problem and raise awareness in our surroundings of the importance of finding different, more sustainable alternatives.

To do this, you first need to think about the function of the object, the types of materials you will use and the environmental benefits that can be achieved, and then follow the scheme to help you to make an excellent product!

About CFCs

In the seventies and eighties, numerous products contained chemical particles called chlorofluorocarbons. These were found in refrigerators, air conditioners, paints and aerosols.

When these CFCs were released, they ascended into the atmosphere to the ozone layer.

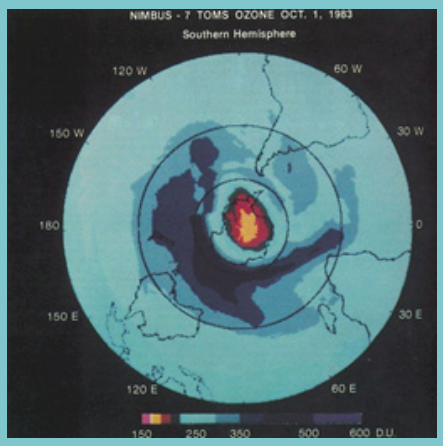
In 1974 scientists, published several articles to raise the alarm about environmental problems that were depleting the ozone layer, leaving humans more exposed to radiation from the sun, which causes skin cancer. However, many companies ignored the potential hazards and carried on using these chemicals regardless.

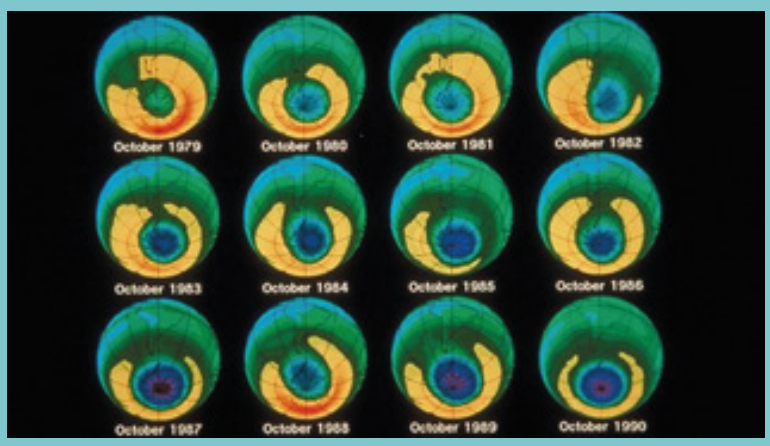
In 1975, SC Johnson surprised the chemical industry and set new standards for environmental leadership when it became the first company to impose a global ban on chlorofluorocarbons (CFC) from their aerosol products.

In 1985, NASA scientists published their conclusions; they included satellite images showing the size of the hole in the ozone layer. This led to global mobilisation by governments and industries that ensured the threat was taken seriously.

In light of the different positions taken by countries and industries, the United Nations adopted the principle of caution which postulated that "if we do not have 100% scientific certainty, it is best to take preventive measures for compensation".

Finally in **1987,** at the **Montreal Summit,** it was agreed to gradually reduce CFC gases by 100% to 50% within the subsequent ten years.





2. LET'S THINK ABOUT OUR PRODUCT

The design problem emerges from a need. However, problems don't solve themselves. To find solutions, designs ask questions and analyse them as follows:

- They look at the problem from the perspective of the item and its purpose.
- Requirements for materials and product techniques.
- They need to "invent" and "design" the product in a way that makes it feasible, giving it the **characteristics and needs proposed during the ideas phase** during the creation process.

You will develop a product using **ecological and recycled materials** to satisfy consumers' **needs and demands** and comply with **sustainability requirements.**

Have a classroom **debate** after watching the videos we provide you with in the Teaching Unit 2 "Circular Economy".

3. LET'S CREATE OUR PRODUCT

At this stage, our mission is to create a product with ecological or recycled materials.

Remember what we have set out to do: create a new, sustainable product made with recycled or ecological materials!

Before starting work, read our **useful guide to Ecodesign** which will help you to define the best product.

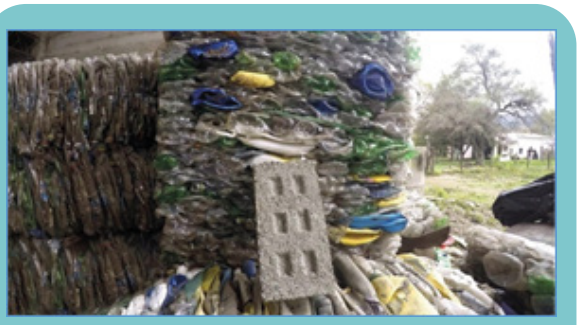
https://www.circulardesign-guide.com/

3.1 HOW SHALL WE DEVELOP OUR PRODUCT?

STEP 1 OF THE MISSION. APPLYING ECODESIGN FACTORS

Following the Ecodesign principles explained in point 2 (Impact and the environmental impact and footprint), use Teaching Unit 3 “Circular Economy” to start thinking about the product you are going to create.

As an example, we are providing you an innovative plastic brick, a product invented recently by a student at the Architecture and Planning Department at the Universidad Nacional de Colombia (UNAL).



http://www.plastico.com/temas/Con-desechos-plasticos-elaboran-adoquines-para-construccion+131792?tema=3700000

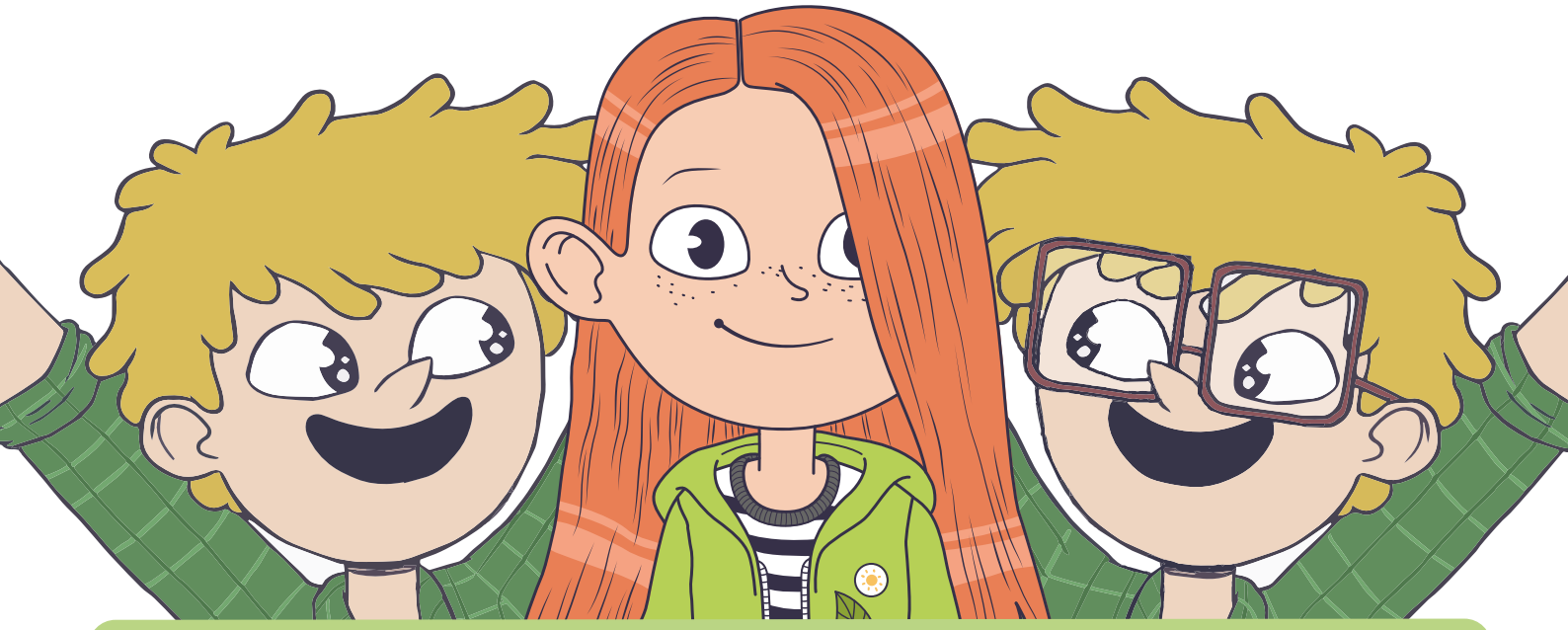
PASO 2 DE LA MISIÓN. SEGUIMOS EL PROCESO DE LA METODOLOGÍA PROYECTUAL PARA LOGRAR EL MEJOR PRODUCTO.

As an example, we are providing you with a case study for creating a lamp, considering that you need to create your own product, based on your choice, preferences and the possibilities of marketing it in Leroy Merlin.

PROJECT METHOD		
PROCESS	**DESCRIPTION**	**EXAMPLE**
1. DEFINING THE PROBLEM	List all the options, factors, use characteristics and function, etc. which plots the limits of the problem. Function. Use. Location. Utility. Presentation for sale. Materials. Production costs. Values.	We have to design a lamp. Will it be a ceiling, table, or wall lamp? Living room, study, studio? Child, adult? Direct light, background light...? Will it be demountable, kit format, pre-assembled....? Materials, production costs.
2. ELEMENTS OF THE PROBLEM	Analyse and divide the components into subproblems. Break the problem down into its different elements.	Analyse the characteristics of the problems: functional, aesthetics, materials, techniques, structural, ergonomic, psychological...
3. CREATIVITY WITH THE PROBLEM	Regroup and coordinate solutions to each subproblem in a creative way.	What type of life? With or without a dimmer switch? What type of material? What type of technology? How will it be transported to the store? At the point of sale: packaging, storage.
4. GATHERING THE DATA	Conduct market research in order to see the current offer, the types of materials and technologies, possible shapes and styles, auxiliary elements, etc.	Type of lamps on the market today? Review of old models, can they be designed? Auxiliary elements: bulbs, shades, plugs, switches, tec.
5. DATA ANALYSIS	This analysis is useful for comparing and checking how design issues are dealt when creating other products. The comparison also makes it possible to identify unresolved faults so as not to repeat them in the design, and to resolve shortfalls detected in other products in order to find more creative, original and innovative solutions.	Analysing all the data and the market offer provides suggestions about what NOT to repeat to be able to create a good design and guides them toward what should be done to find a good solution. It also gives guidance regarding potential materials, other technologies, innovations, etc.

PROJECT METHOD		
PROCESS	**DESCRIPTION**	**EXAMPLE**
6. CREATIVITY	The creativity applied to solving subproblems, displaces and replaces the intuitive design, while dealing with the specifics (subproblems) of the product to design.	Whilst ideas are linked to "fantasy" and imagination and can lead to impossible solution from a production standpoint, creativity is kept within the restrictions of the problem and rewards techniques that make it possible to manufacture the product to design, developing from a mental idea to a physical object.
7. MATERIALS AND TECHNOLOGY	As well as the data analysis, you compile data about the available materials, whether or not you apply this to your design, and the technical and technological possibilities that the market and industry make available to the designer. Another potential, and very creative approach is the extrapolation of an industry, of materials, of a technology outside the design sector and which may contribute new solutions.	The industry considers a set of possibilities and resources that make the model designed feasible. If it can't be made, it is pointless thinking of solution outside these two pieces of data.
8. EXPERIMENTATION	Experimentation can uncover new uses of a material or instrument, or take it to the design construction field. This makes it possible to obtain information about new uses of a produced conceived at origin for another use, for a single use, other than the one proposed.	Experimentation is a way of obtaining creative solutions, to the extent that they establish useful and possibly new relationships for the design project.
9. PROTOTYPES	Prototypes make it possible to determine the utility, viability and adaptability of the models chosen for the final design.	Prototypes demonstrate the materials, technique and function, style, etc, that will be used in the final model to reduce the margin of error. This focalises and centres the project toward the final design.

PROJECT METHOD		
PROCESS	**DESCRIPTION**	**EXAMPLE**
10. VERIFICATION	Designs are verified based on objective user opinions of functional and practical considerations. Cost controls are carried out to check the production costs to restricts the final price.	Verification makes it possible to control the validity of the design proposed. This is used to start preparing construction drawings, workshop plans, etc. necessary to build the prototype before mass production.
11. CONSTRUCTION DRAWINGS WORKSHOP PLANS	These are used to give a visual and three-dimensional idea of the design. They contain detailed information about measurements, tolerances, etc., which are used to manufacture the product. Plans must be clear and simple, suitable for mass production.	Workshop plans give an isometric perspective of the product, plans and construction sketches.



¡HA NACIDO NUESTRO OBJETO!
LA IDEA HECHA DISEÑO

In any business when a product that goes on sale on the shelves, the aisles where different products are put on display, packaging is used for promotion and sales, therefore it must comply with the following design criteria or factors; presence and content; image and definition; criteria of adaptability and suitability, and its compliance with criteria of legality and sustainability.

Therefore, beyond the specific criteria of the packaging, the challenge is to ensure that packaging is sustainable, respects the environment, can be recycled, does not generate excessive waste when it is bought, and that it can be recycled or transformed into a new material.

SPECIFIC PACKAGING CRITERIA	
PRESENCE	Making the packaging stand out if the most important factor. If it is lacklustre, it is not doing its job, because it needs to stand out among all the products surrounding it, its direct competitors.
CONTENTS	The packaging must make it perfectly clear what it contains, its nature. It may seem obvious, but some packaging does not say or specify what is inside.
IMAGE	The package must have the right image and style for the product. When you are selling a washing powder, for example, it doesn't matter if you exaggerate, because the more eye-catching your design, the bigger the impact and the more you will sell without changing the essence of the product. However, if you want to sell a gourmet product, the flashier it is, the worse the image, because it will lose the prestige and elegance associated with all high-quality products.
DEFINITION	The package must be designed to be different from its competitors, while maintaining formal continuity if they are different products in the same brand, in which case new additions should be as close as possible to the brand's leading product.
ADAPTABILITY	If the packaging is part of one brand's specific range, the design must be suitable for entire ranges, varying only according to the different products in the range.
SUITABILITY	The design must be suitable, must comply with the above criteria and its intention must be to sell the contents.

SPECIFIC PACKAGING CRITERIA	
LEGALITY	Materials and dyes must comply with hygiene, safety, toxicity, quality standards, etc.
SUSTAINABILITY	After the product has been bought, the packaging has reached the end of its useful life and must enter a recycling system that enables the materials to be reused.

4. WEBOGRAFÍA

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