

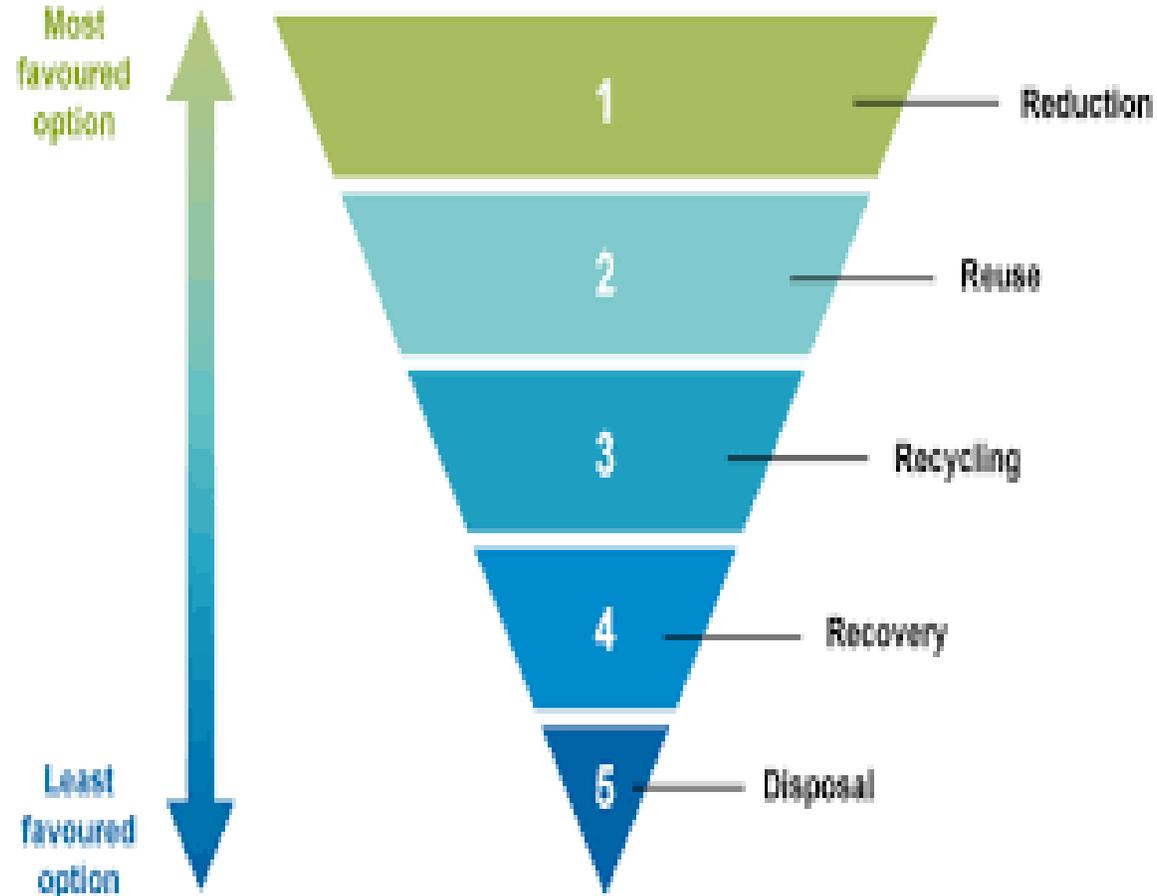
ITIS GALILEO GALILEI
ERASMUS+ 2018/2020
THE FOUR Rs



THE FOUR Rs

- ▶ REDUCE
- ▶ REUSE
- ▶ RECYCLE
- ▶ REPAIR/RECOVER/REPURPOSE

Understanding the hierarchy of the Four Rs



REDUCE

- ▶ The first and most effective component of the waste hierarchy is reducing the waste created. We need to learn to produce less garbage.
- ▶ Consumers are encouraged to reduce their waste by purchasing in bulk, buying items with less packaging and switching to reusable instead of single-use items.

How to reduce waste

What can we do to reduce waste?

- ▶ Buy in bulk to reduce packaging
- ▶ Take a reusable shopping bag with you so you don't have to use a paper or plastic bag from the shop
- ▶ Say 'no' to a plastic shopping bag when you only have a couple of items
- ▶ Choose products that use less packaging
- ▶ Buy reusable items rather than disposable ones
- ▶ Take your lunch to school in a reusable container.

REUSE

- ▶ In the hierarchy of the four «Rs», reuse is the action that should always be carried out, if practicable.
- ▶ The concept behind the second R, reuse, is that you should reuse items as much as possible before replacing them.
 - For ex., update your computer rather than buying a new one and.
 - For ex., refill a purchased bottle of water with water from home to minimize the number of plastic bottles being discarded.

How to reuse

What can I do to reuse waste?

- ▶ Give unwanted toys and books to hospitals or schools
- ▶ Put unwanted clothes in used clothing bins
- ▶ Use plastic containers for freezing or storing food items
- ▶ Save wrapping paper and boxes to use again
- ▶ Use old jars for storage
- ▶ Take old magazines to your doctor's or dentist's office
- ▶ Use shopping bags to take out your garbage
- ▶ Shop at second hand stores/markets or use online trading websites to buy items that are unwanted by others
- ▶ Donate household items to charity organizations

RECYCLE

- ▶ Recycling is the third R in the waste management hierarchy but it is the most commonly used element. It is the most advertised of the four Rs.
- ▶ Recycling means changing old products into new ones so they can be resold. For example, when you set out bottles and cans to be recycled, they are taken to a plant where they can be reprocessed into many new things. They may be changed in to new bottles or cans, or they could be changed into things like bicycles or asphalt.
- ▶ Although recycling helps to conserve resources and to reduce waste, it is important to remember that there are economic and environmental costs associated with waste collection and recycling. For this reason, recycling should only be considered for waste which cannot be reduced or reused.

How to recycle

The main products that can be recycled are paper, cardboard, glass, aluminium, tin and plastic containers.

What can we do to recycle?

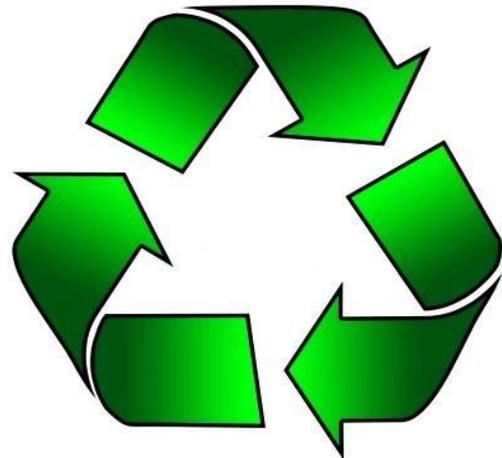
- ▶ Separate recyclables from other waste. It is the responsibility of us consumers. The problems that arise with recycling are usually the lack of knowledge (do I put plastic with metal or not?) and accessibility (where do I put the separated items?) Get the right information from our city and be informed.
- ▶ Buy products that are made from recycled materials

Repair, recover and repurpose waste

- ▶ Repair a broken object if possible. Your grandparents always did this!
- ▶ Recover is to convert waste into resources (such as electricity, heat, compost and fuel) through thermal and biological means. Resource Recovery occurs after reduce, reuse and recycle have been attempted. Repurpose means to take something and use it for something else. This requires a bit of thinking and craftiness, but doesn't have to be beautiful. For example, you can
 - repurpose scrap paper for taking notes
 - repurpose metal cans, buckets for creative plant containers
- ▶ Repurposing doesn't mean recycling because it doesn't cause a physical change. Repurposing is preferable to recycling.

We all need to practice waste management.

The 4Rs are a process to help us reach the final goal of eliminating waste.



Waste management

- International laws
- European laws
- Italian laws



International laws

There are 4 important international regulations on waste law:

- General Assembly of the United Nations (A/RES/43/212), on Responsibility of States for the protection of the environment.
- Basel Convention on the control of the cross-border movement of hazardous wastes and their disposal.
- Protocol to the Basel Convention on civil liability for damage from cross-border movement of hazardous waste.
- Bamako Convention on the ban on importation and control of the cross-border movement of hazardous waste in Africa.

European laws

There are 4 main legislations on waste:

- a regulation establishing a monitoring and control system to reduce the risk of non-controlled shipments within the EU (1013/2006/CE);
- a directive laying down measures to prevent the reduction of atmospheric, water and soil pollution caused by the incineration of waste (2007/76/CE);
- a directive setting a general recycling target for household waste which also applies to plastic waste (2008/98/CE);
- a directive that deals with the placement of waste in landfills (1999/31/CE).

Italian laws

The issue of waste management, in Italy, is collected in the “Testo Unico Ambientale” (TUA). Specifically, we talk about:

- Priority criteria (Article 179): to develop clean technologies; market products that don't contribute to the production of waste; improve technologies to eliminate the presence of hazardous substances in waste.
- Prevention of waste production (Article 180): to promote experimental agreements and programs to prevent and reduce the quantity and danger of waste.
- Waste recovery (Article 181): reuse and recycle; favor the market of reused products; use waste to produce energy.

HOW TO APPLY THE 4 RS

- 1) REDUCTION=choosing products made up of less packaging material, bringing the shopping bag from home, using rechargeable products.
- 2) REUSE=using containers with returnable vats, recovering certain types of packaging, finding new uses.
- 3) RECYCLING=selecting waste, adopting separate collection, getting informed.
- 4) RECOVERY=burning the wood in the fireplace to produce heat, producing objects completely different from those of departure, such as games for children.



REDUCING IN NORTHERN ITALY

In Italy the percentage of separate waste collection is equal to 52,5% of national production.

With reference to the various geographical areas of the Country, separate waste collection is established in the:

- 1) North to about 9,1 million tons

These values translate into percentages equal to 64,2% for Northern Regions.



REDUCING IN CENTRAL ITALY

With reference to the various geographical areas of the Country, separate waste collection is established in the:

1) Center to about 3.2 million tons

This values translate into percentages equal to 48,6%% for those in the Center.



HOW APPLY REDUCING IN SOUTHERN ITALY

With reference to the various geographical areas of the Country, separate waste collection is established in the:

- 1) South to about 3.5 million tons

These values translate into percentages equal to 37,6% for Southern Regions.



HOW I APPLY REUSING

At home, we have so many things that can be transformed into design objects, if no longer useful. If you have caps available, before throwing them away think about how many things you can do. It is possible, for example, make a hole in them and create very trendy necklaces and bracelets or even wonderful keyrings with the inscription of the addressee or the doors that they open.



HOW I APPLY RECYCLING

Like cans, if bottles are thrown into the appropriate containers, they can be reborn. With just 20 plastic bottles you can make a sweater.



WASTE RECYCLING PLANTS

The method proposed by CNR (Italian National Research Council) provides ways for the fermentation of organic materials from which to capture carbon dioxide and to synthesize hydrogen. In this way there are 3 advantages:

- the production of clean energy
- capturing carbon dioxide
- the recovery of waste materials.



HOW APPLY REPAIRING

If you break things in your house, for example the shower, call the plumber and fix the problem.

Don't go out and buy a new shower!



WE USE THE 4RS

FOR A BETTER

WORLD



THANKS FOR WATCHING !

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