



Chemistry: All About You

Module 2. Chemistry All About You – The video

MODULE 2. CHEMISTRY: ALL ABOUT YOU – THE VIDEO

The video “*Chemistry: all about you*” has been designed in the context of the International Year of Chemistry 2011 to inspire young people and attract new talents by showing them the multiple applications of chemistry.

The video shows that, in our daily lives, chemistry has come a long way. We are surrounded by things that consist of materials derived from chemical processes. For example:

- **Thermoplastic packaging** helps us preserve food over longer periods of time than we could before its appearance.
- The low density polystyrene and polyolefins used in various **packaging** applications have enabled the industry to decrease the level of energy consumption and CO₂ emissions
- **Composite materials** protect much-used devices such as the refrigerator or the oven, from unsightly scratches and make them easier to take of.
- The **insulation foam** that we are so dependent on these days, which is used in every house, is energy efficient and eco-friendly, as it reduces energy consumption and CO₂ emissions; it did not exist a few decades ago.
- The **audio and video devices** that we use daily, such as mp3 players, computers, video players, are made of strong, plastic materials, and are fashionable these days; we see them everywhere. The synthetic fibres that are included in almost every piece of clothing provide us with warmth and comfort; they have become essential to our lives.
- Water has also been helped by chemistry to sustain life. **Water treatment** solutions have been develop to prevent the spread of diseases and to make clean water more accessible in places where drought and extreme temperatures have severely affected the water reserves; **plastic pipes** have reduced water wastage and are helping the world’s growing population.
- **International communications** and **mobile payments** are now possible due to the appearance of mobile phones, also made of light, strong plastic.
- **Plastic compounds** and **rubbers** are used in the structure of cars to make them safe, strong and lightweight and assure optimal efficiency while reducing noxious emissions and use of energy.
- **Consumer plastics** help people to access information and communicate at a distance more easily, using desktop computers and laptops on the Internet. Information and Communication Technologies (ICT) are also dependent on consumer plastics as they need a device that enables the user to view the information he wants.



- When it comes to protection, there are many areas in which the products of chemistry have become essential. **Coating** has a major role in our lives as it protects walls from erosion and humidity, preventing the growth of mould; and it is also colourful, with a great array of colours to choose from.
- **Synthetic fibres** play another major part in our lives. They are present in hospitals, in the form of sterile bandages, which are needed daily. Their safety, hygienic and protective actions make them crucial in medicine.
- To treat disease and pain, **chemical antiseptics** and **analgesics** are often used. Besides their pain relieving action, they can also save lives, and can be found in drugstores in the shape of pills, syrups, powders. They can also be administered with the help of syringes, or perfusions; either way, **single use plastics** like these are crucial in order to prevent the spread of diseases.
- Last but not least, **technical polymers**: they are the most recent discoveries yet and have enabled us to develop new technologies, to ensure energy supplies for the future. We now have solar panels, wind and water turbines, and so on. We have the means to save energy, to use it in a better way, in a way that will help us maintain a prosperous life, all of this thanks to the evolution of chemistry.

The video enables us to reflect on the level that has chemistry reached nowadays and shows the contribution of this science to many domains, including mobile telephony, television, Information and Communication Technologies or even music and art. Few people are actually aware that chemical processes are the basis of all that surrounds us.

The contributions that chemistry has brought to our world are unfortunately often obscured by the drawbacks that chemistry has, such as chemicals that pollute the environment, chemicals that attack our health that can produce cancer.

The most important benefits derived from the science of chemistry, such as water treatment, cures for the multitude of diseases that threaten us, single-use plastics, chemical antiseptics, even technical polymers, must not be forgotten, since a great deal of progress has been made to counter every drawback that chemistry has. For example, lessons learned in the field of consumable energy have been applied to medicine and by doing so we have overcome hundreds of problems that a few decades ago seemed impossible to solve.