





# Participating schools / Escuelas participantes

- **Secondary school of Grombalia, Tunisia:** Wala Abid - Ameni Gahbiche - Wajih Horcheni - Firas Khouini
- **I.E.S Melchor de Macanaz, Spain.**
- **ZSGH Poland:** Oskar, Jan, Kacper
- **10th Helioupolis Primary School:** Fotini, Eleni F
- **B' Arsakeio Tositseio Junior High School in Ekali, GREECE**

**Teachers / Profesores:**

- Najoua Slatnia, Tunisia
- Rogelio Martínez del Oro, Spain
- Łukasz Kamiński, Poland
- Natalia Tzitzzi, Greece
- Athina Garbola , Greece



# Topics / Temas

- Famous chemists / Químicos famosos
- Energy / Energía
- The toxic elements / Los elementos tóxicos
- water pollution / Contaminación del agua
- Toxic gases / Gases tóxicos

# Most popular chemists / Los químicos más famosos

\*Maria Skłodowska-Curie (1867-1934)

\*Linus Pauling (1901-1994)

\*Dmitrij Mendelejew (1834-1907)

\*Louis Pasteur (1822-1895)

\*John Dalton (1766-1844)

\*Antoine Lavoisier (1743-1794)

\*Jabir ibn Hayyan ( 760 - 815)



Oskar, Kacper and John,  
Poland

# Maria Skłodowska-Curie

## (1867-1934)

Marie Salomea Skłodowska Curie, the most important scientist in history, was a Polish chemist and physicist with an enormous influence on science. He devoted his entire life to radioactivity. After discovering the elements radio (Ra) and polonium (Po), Marie Curie was the first person to win two Nobel prizes.

Marie Salomea Skłodowska Curie, la científica más importante de la historia, fue una química y física polaca de enorme influencia en las ciencias. Dedicó su vida entera a la radioactividad. Luego de descubrir los elementos radio (Ra) y polonio (Po), Marie Curie fue la primera persona en conseguir dos premios Nobel.



# Jabir ibn Hayyan

## ( 760 - 815)

One of the most famous Arab alchemists born in Iraq, he was also a mystic and a doctor. He described ammonium chloride, the preparation of albayalde (lead carbonate). He carried out studies on the transmutation of metals and wrote more than 100 treatises (23 on chemistry). He invented the still and the retort.

Uno de los alquimistas árabes más célebres nacido en Iraq, fue además místico y médico. Describió el cloruro de amonio, la preparación de albayalde (carbonato de plomo). Realizó estudios sobre la transmutación de los metales, Escribió más de 100 tratados (23 sobre química). Inventó el alambique y la retorta.



# Energy / Energía



**Energy is the motor of our daily lives, it is compatible with all areas. Scientists have always been interested in discovering new energy sources for the presence of renewable and other non-renewable energy sources, and there are many types of energy such as mechanical, thermal, nuclear, chemical and electromagnetic.**

**La energía es el motor de nuestra vida diaria, es compatible con todas las áreas. Los científicos siempre han estado interesados en descubrir nuevas fuentes de energía para la presencia de energía renovable y otras fuentes no renovables, y hay muchos tipos de energía como mecánica, térmica, nuclear, química y electromagnética.**

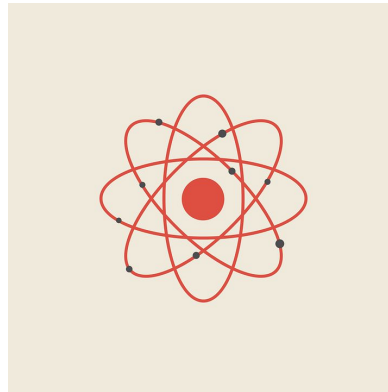
Ameni Gahbiche,  
Túnez



# Energy / Energía

**Chemical energy is one of the most powerful energies known to mankind, where the human capacity to control it, such as nuclear energy resulting from the division of nuclei and atomic energy resulting from the division of corn.**

**La energía química es una de las energías más poderosas conocidas por la humanidad, donde la capacidad humana para controlarla, como la energía nuclear resultante de la división de núcleos y la energía atómica resultante de la división del maíz.**



Wala Abid,  
Tunisia

# The toxic elements / Los Elementos tóxicos

**Toxic substances are harmful chemical combinations that must be eliminated by burning.**

**The five most toxic chemicals in the world: Cadmium - Beryllium - Arsenic - Lead - Mercury**

**Las sustancias tóxicas son combinaciones químicas nocivas que deben eliminarse quemándose.**

**Los cinco elementos químicos más tóxicos del mundo:  
Cadmio - Berilio - Arsénico - Plomo - Mercurio**



<http://www.quimicaencasa.com/los-cinco-elementos-quimicos-mas-toxicos-del-mundo/>

**Wala Abid, Túnez**

# Water pollution/ La contaminación del agua

Más de dos tercios de la superficie de la Tierra está cubierta por agua; menos de un tercio es tomado por tierra. A medida que la población de la Tierra continúa creciendo, la gente ejerce una presión cada vez mayor sobre los recursos hídricos del planeta. En cierto sentido, nuestros océanos, ríos y otras aguas continentales están siendo "comprimidos" por actividades humanas, no por lo que ocupan menos espacio, pero su calidad se reduce. Una calidad del agua más pobre significa contaminación del agua. No hay una manera fácil de resolver la contaminación del agua; si hubiera, no sería un gran problema. En términos generales, hay tres cosas diferentes que pueden ayudar a abordar el problema: educación, leyes y economía, y trabajan juntas como un equipo.

Ameni Gahbiche , de Túnez



# Water pollution/ La contaminación del agua

More than two-thirds of the Earth's surface is covered by water; less than one-third is taken up by land. As the Earth's population continues to grow, people are putting increasing pressure on the planet's water resources. In a sense, our oceans, rivers and other inland waters are being 'compressed' by human activities, not by taking up less space, but their quality is being reduced. Poorer water quality means water pollution.

There is no easy way to solve water pollution; if there were, it would not be a big problem. Generally speaking, there are three different things that can help address the problem: education, law and economics, and they work together as a team

Ameni Gahbiche , de Túnez



# Water pollution: causes

Water pollution is one of the biggest problems all over the world, not only for humans but for all the living organisms underwater as well.

Water pollution is caused by ships that dispose their waste in the sea. It is also caused by ships which carry tons of oil. This oil occasionally leaks into the sea and kills everything around it.

Another cause is the factories which throw away their rubbish into rivers. Rivers end up in seas, as we all know, with the result of water pollution.

Finally, we are also to be blamed for this universal problem because we throw away rubbish into the sea instead of recycling or reusing!

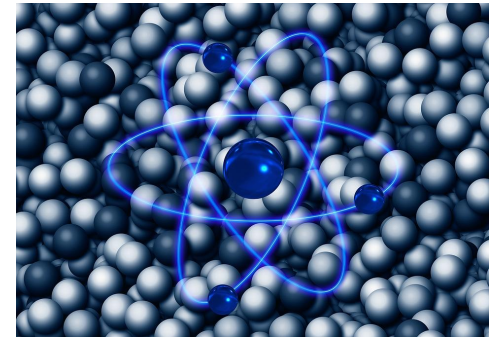
By Fotini and Eleni F

# Chemistry

Chemistry can have both advantages and disadvantages. Sometimes, it is the reason for many problems in the world like water pollution, air pollution, the fear of many people of nuclear wars. That's why I hope chemistry is only used for positive things.

La química puede tener tanto ventajas como desventajas. A veces, es la razón de muchos problemas en el mundo como la contaminación del agua, la contaminación del aire, el miedo de muchas personas a las guerras nucleares. Por eso espero que la química sólo se use para cosas positivas. .

Firas Khouini, Tunisia



# Toxic gases

## by Joanna from Greece



Many people throughout the Western world die every year as a result of breathing in toxic gases, which cause their lungs to fail or their hearts to go into cardiac arrest. These gases, which are found not only in industrial environments but also in nature, can be odourless, colourless and generally for the most part undetectable to the human eye and nose.

### **Carbon Monoxide**

Carbon Monoxide poisoning is a common way in which many people die. Not only is it something found in nature as the result of incomplete combustion of wood or coal but it is also present in the fuel we burn to run our motor vehicles.



