

MARIE CURIE

A- **LISTENING:** Listen to Marie Curie's biography and correct the sentences as in the example. (Escuchar la biografía de Marie Curie y corregir las oraciones como en el ejemplo.)



marie_curie.mp3

(Doble click sobre el ícono para reproducir audio)



Example:

Marie Curie was born in 1967. Marie Curie wasn't born in 1967. She was born in 1867.

- 1- She was a pioneer in the field of noble gases.
- 2- She discovered two physical elements.
- 3- She became the first female professor in the University of Warsaw.
- 4- Marie had a poor memory.
- 5- Marie and Pierre met in a party.
- 6- They spent most of their time in their home.
- 7- They discovered bohrium.
- 8- In 1913 they won the Nobel Prize for physics.
- 9- After Pierre's death, Marie stopped working.
- 10- Marie knew how deadly radium was.

CHEMICAL PROCESSES

B- **READING:** Read and answer the questions below. (leer y responder)

- 1- Who is Andrew?
- 2- Which two elements are mentioned in the text?
- 3- Is water an element or a compound?
- 4- What happens to water if we heat it at 100°C?
- 5- Mention two examples of chemical processes from the text.

Chemical processes

Andrew is a chemist. He works at a university. He teaches basic chemistry. Listen to his class.

"... and so by describing something everyone knows about we can see how (1) affects every part of our lives.

Take two (2) _____, in this case hydrogen and oxygen. They are both very common and are different from each other. Hydrogen has the (3) _____ 1 and oxygen, 8. Because they are elements there is nothing we can do to break them down any more, nor can we turn one element into another. What we can do, is join them together, to bond them as a (4) _____ would say.

Let's take two (5) _____ of hydrogen and one of oxygen; we then have not two elements but one compound. To a chemist it is H₂O, but to the non-scientist it's (6) _____.

Now we can reduce the temperature of this water to 0°C and it becomes (7) _____. Or we can increase the temperature to 100°C and it becomes steam. To a chemist though, it's still H₂O.

What has happened is that the substance has changed its form. As ice, it's water in a solid form, as steam, it's water in the form of gas.

Of course, we are more familiar with water as a (8) _____. However, by adding or taking away heat from H₂O we've made it undergo a transformation, and this adding or taking away heat is, in a very simple form, a chemical process. We see it happen very often, when we make ice for a drink, or in the winter when the rain falls as snow. We see it every time we boil water for (9) _____. Other chemical processes look more complicated because they have more different materials bonding in different quantities, but the process is the same. For example, when oil is used to make (10) _____..."

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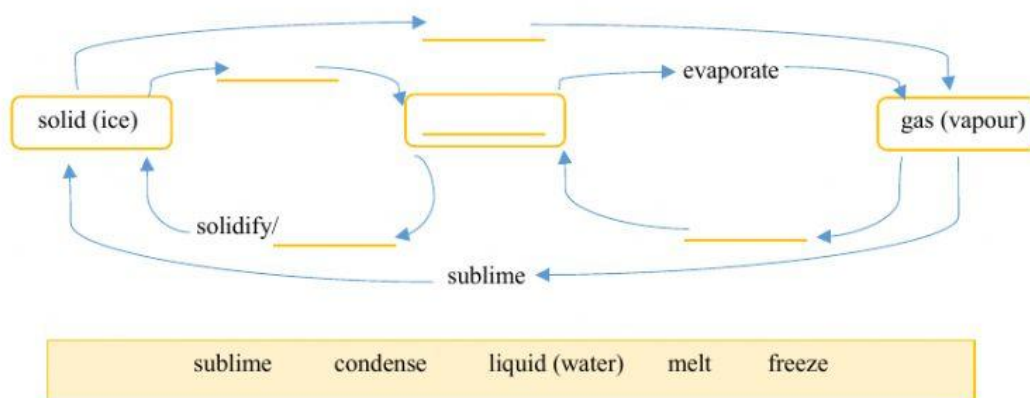
C- **Listen to Andrew's class and fill in the gaps. Use the words in the box.** (Escuchar la clase de Andrew y completar los espacios. Usar las palabras del recuadro)



Chemistry - hydrogen & oxygen.mp3

Chemist – chemistry – petrol- liquid - molecules - elements – cooking - water – atomic - number – ice

D- **Complete: The States of matter. Use the words in the box.** (Completar el esquema. Usar las palabras del cuadro)



GRAMMAR PRACTICE

1- Study the ENGLISH TIPS and choose the correct answer. (Estudiar los ENGLISH TIPS y elegir la respuesta correcta)

- | | | |
|---|----------------|------------------|
| a- Carol _____ a chemist. | A- are | B- is |
| b- She _____ in a lab. | A- work | B- works |
| c- She _____ chemical processes. | A- studies | B- study |
| d- Hydrogen _____ the atomic number 9. | A- has | B- doesn't have |
| e- Hydrogen and oxygen _____ compounds. | A- are | B- aren't |
| f- A compound _____ a bond of two or more elements. | A- is | B- are |
| g- Water _____ ice, when its temperature is reduced to 0°C. | A- become | B- becomes |
| h- Carol and her team _____ radioactive materials. | A- don't study | B- doesn't study |
| j- They _____ work at 9 a.m. every day. | A- starts | B- start |
| k- Carol _____ home at 7 p.m. | | |

- 2- **Complete the definitions with a word from the box. Write the correct form of the verbs in brackets.**
(Completar las oraciones con las palabras del recuadro. Escribir la forma correcta del verbo entre paréntesis)

charge compound ~~liquid~~ metal molecule reaction

- 1- If a substance _____ (sublime) it _____ (pass) from a solid to a gas, without becoming a **liquid** .
 2- A _____ (be) the smallest structured particle of a substance, with no electric charge.
 3- *Lead** _____ (be) a soft, very dense, poisonous _____ .
 4- An element's *electric* _____ is given by subtracting the number of electrons from the number of protons.
 5- A substance's *valency* _____ (give) the number of ions that will combine to form a _____ .
 6- An equation such as $H_2 + Cl_2 = HCl$ _____ (represent) a chemical _____ .

*lead=plomo

- 3- **Match the names of the compounds with the formulae.** (Unir los nombres de los compuestos con sus fórmulas)

- 1 sodium chloride _____ NaCl
 2 hydrogen chloride _____
 3 carbon dioxide _____
 4 aluminium oxide _____
 5 nitrous oxide _____
 6 hydrogen peroxide _____
 7 calcium carbonate _____

N₂O
 H₂O₂
 Al₂O₃
 NaCl
 CaCO₃
 CO₂
 HCl

- 4- **Tick the correct option. Then name the compound needed in each case.**

- 1- The carpenter work / works ✓ with aluminium to make window frames. **Al₂O₃ aluminium oxide**
 2- Teachers at my school don't use / doesn't use board markers, they write with chalk.
 3- Hydrochloric acid have / has corrosive properties.
 4- Surgeons uses / use anaesthetic to make their patients sleep during a surgery.
 5- Don't use / Not use too much table salt in your meals.
 6- Plants needs / need this gas to make photosynthesis.
 7- A hairdresser bleaches / bleach hair with this liquid.
 8- We don't breath in / doesn't breathe in this gas.
 9- Nurses use / uses this liquid to disinfect wounds.
 10- Batteries, photoflash bulbs and fireworks contains / contain hydrochloric acid.