



UNITED NATIONS SCHOOL I.E.D.

PEI: COMPREHENSIVE TRAINING OF COMPETENT ENTREPRENEURIAL LEADERS, WITH
DEMOCRATIC, TECHNOLOGICAL, CULTURAL AND SPORTS PRINCIPLES

MOTTO: "EDUCATION, SCIENCE, CULTURE AND SPORT TO TRANSCEND"

PREPARATION WORKSHOP FOR THE SECOND PERIOD

CHEMISTRY

ELEVENTH GRADE

TEACHER HEISEL QUESADA

The preparation workshop must be carried out in the Chemistry notebook as a requirement to take the competency test

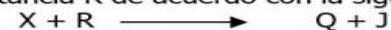
Delivery date: JULY 15

USE THE FOLLOWING INFORMATION FOR QUESTIONS 1 TO 10

Las sustancias P y J reaccionan de acuerdo con la siguiente ecuación



Adicionalmente la sustancia X reacciona con la sustancia R de acuerdo con la siguiente ecuación



Químicamente la sustancia R no reacciona con las sustancias P y J

En la siguiente tabla se presentan algunas características de las sustancias mencionadas

Todas las sustancias son líquidas a 20 °C

Sustancia	Masa molar (g/mol)	Temperatura de ebullición (°C)
P	50	215
J	?	50
X	30	180
R	?	100
Q	40	200

1. Based on the information, it calculates the molecular weights of J and R
2. Write the reactants and products in each equation
3. Write down the boiling temperatures of the substances in ascending order
4. Which of the substances would go into a gaseous state first? Justify your answer
5. Which of the substances would first go into a solid state? Justify your answer
6. Perform the ratio in moles for each equation
7. Perform the gram ratio for each equation
8. Organizes substances from highest to lowest molecular weight
9. Calculate the moles of J produced from 400g of R
10. Propose the steps to calculate the amount of P needed to produce 8 moles of X

USE THE FOLLOWING INFORMATION FOR QUESTIONS 11 TO 20

The passage from ALCHEMY to CHEMISTRY makes it necessary to give to each known substance a name that expresses its chemical nature and a symbol that represents it in a clear and abbreviated way and that responds to the molecular

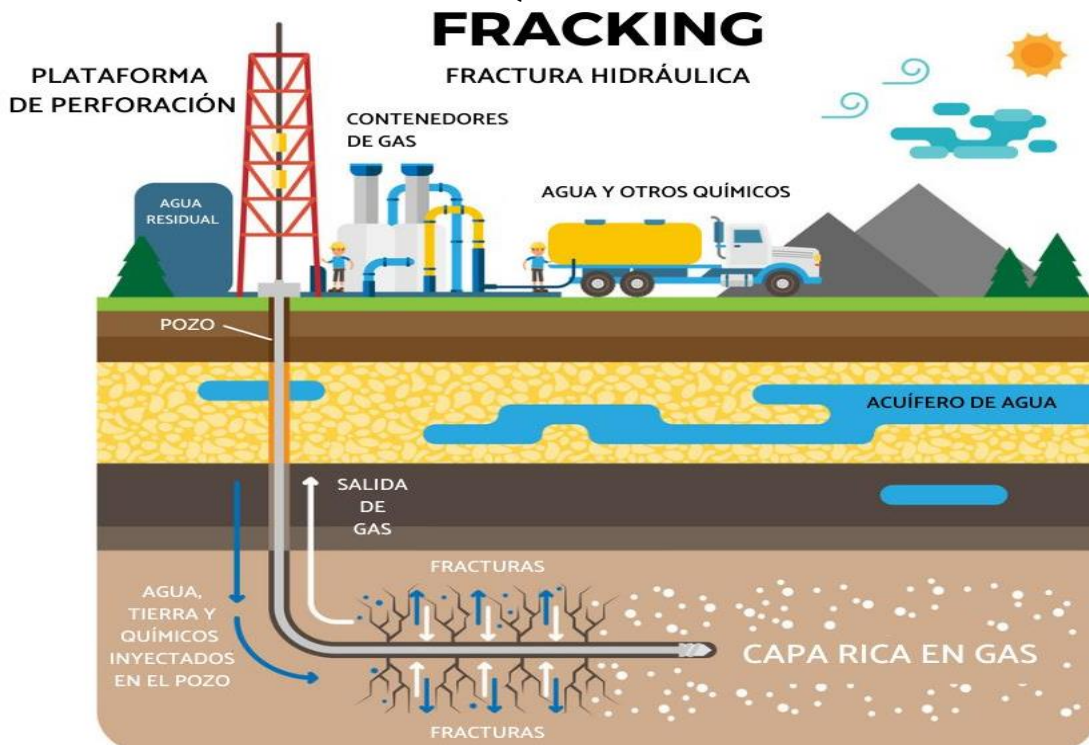
composition of the substances. Alchemists had already used symbols to represent the elements and compounds known at the time, but these symbols were artificial. Lavoisier proposed some conventional signs to represent different substances, but Dalton was the first to use different signs for the atoms of the elements then known and by combining them he was able to represent the constitution of many compounds from the elemental composition found for them. The modern representation is due to Berzelius who proposed to use, instead of arbitrary signs, the first letter of the Latin name of the element and the second in case two elements began with the same letter. Since, the elements known since ancient times usually had a name in each language; Iron, fer iron eisen..., and Latin was then the international language used in scientific terminology. If the symbols represent the atoms of the elements, the formulas represent the molecular composition of the substances. The formula of water is H_2O , which indicates that its molecule is made up of 2 oxygen atoms and 1 hydrogen atom; the formula for ammonia is NH_3 , which states that its molecule is made up of 1 nitrogen atom, 1 and 3 hydrogen atoms.

11. Write 3 statements that are true and 3 that are false. Write the fake ones correctly too
12. According to the text, he writes the importance of the nomenclature Chemistry
13. Analyze what is the importance of alchemists in nomenclature
14. Consult Berzelius' biography and argue his contribution to the Chemistry nomenclature
15. Make a table with the inorganic chemical functions and their main characteristics

According to the IUPAC nomenclature, what would be the formula and the chemical function of the following compounds (performs procedure). Check the properties of each compound

16. Carbonato níqueloso
17. Cloruro férrico
18. Hidróxido de potasio
19. Ácido sulfúrico
20. Óxido de magnesio

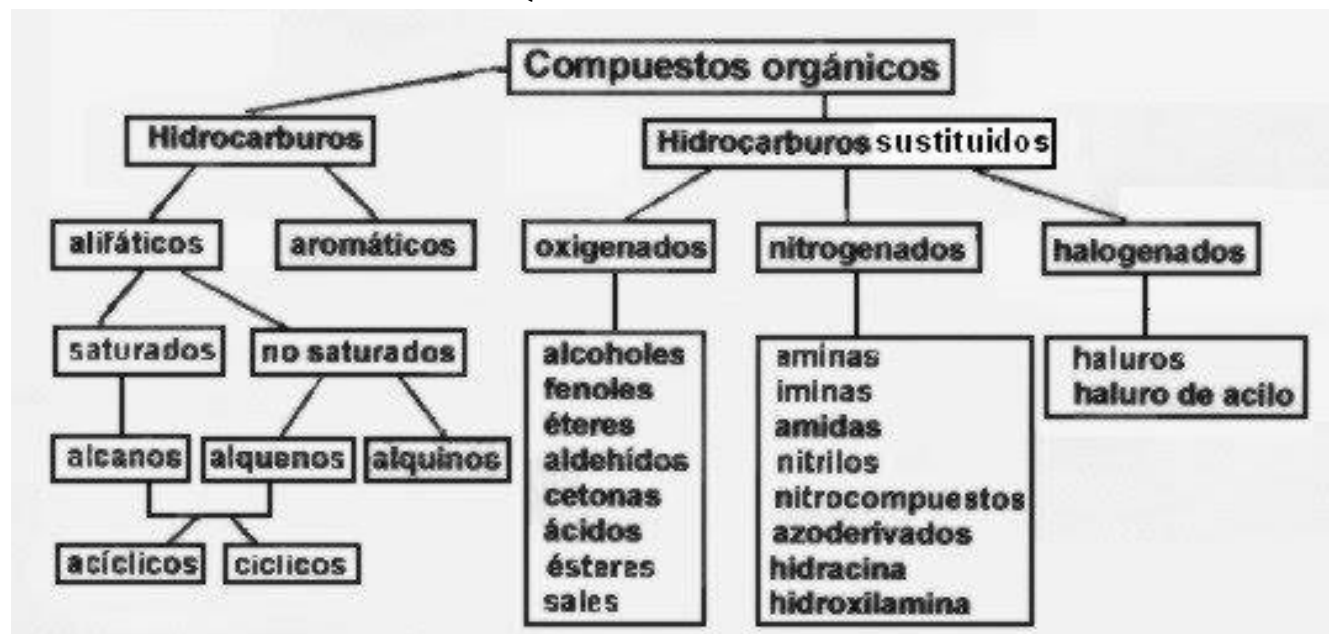
USE THE FOLLOWING INFORMATION FOR QUESTIONS 21 TO 25



21. Based on the information, describe the fracking process
22. According to the scheme, you consider fracking to be positive or negative for the environment. Justify your answer
23. He writes a 10-line paper explaining the relationship between fracking and corruption
24. What is the purpose of fracking?

25. What benefits can fracking bring to a population

USE THE FOLLOWING INFORMATION FOR QUESTIONS 26 TO 30



26. From the information, write 3 true and 3 false statements. Write the fake ones correctly too

27. Consult the chemical and physical properties of each compound on the map and analyse what its use can be at an industrial level

28. Write the functional groups of the compounds in the map

29. Write down the differences and similarities between oxygenated and nitrogenous compounds

30. Argue the differences between alkanes, alkenes and alkynes