

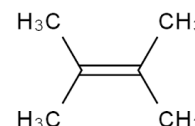
CHEMISTRY 2020

Round 1

1. Radioactive is a British biographical drama film starring Rosamund Pike. Which pioneering character does she play? **Marie Curie**
2. Which element is named after the Greek word for the sun Helios? **Helium/ He**
3. This salt gives a blue-green flame and a white precipitate with barium chloride which is insoluble in dilute HCl. Identify it. **Copper sulfate/ CuSO₄**
4. This gas is released during a barbecue when a carbon-based fuel - such as gas or charcoal - is not given enough ventilation to burn adequately. Identify it? **Carbon monoxide/ CO**
5. This recycling symbol may be found on your wheely bin. What does it represent? **High Density Polythene**
6. The IUPAC nomenclature of organic chemistry is a method of naming organic chemical compounds. What does IUPAC stand for? **International Union of Pure & Applied Chemistry**

Round 2

1. Who is the often-forgotten British chemist whose work on X-ray diffraction images of DNA led to the discovery of the double helix structure? **Rosalind Franklin**
2. This nondrinking type of alcohol, also known as wood alcohol, is mostly used to create fuel, solvents, and antifreeze. It was incorrectly used in hand sanitizers recently. Name it. **Methanol**
3. What is the symbol for tungsten? **W**
4. Whose epitaph is 'He lies somewhere here'? **Werner Heisenberg**
5. Give the IUPAC name for this compound. **2,3 dimethyl-but2-ene**
6. Which is the symbol for Rutherfordium? **Rf**



Round 3

1. Dorothy Crowfoot Hodgkin was a British biochemist who discovered the structure of Vitamin B12 and insulin. For which instrumental technique did she win the Nobel Prize in Chemistry in 1964. **X-ray crystallography**
2. Silica gel is encountered in everyday life and used as a desiccant absorbing moisture e.g. in cat litter. But in which phase of chromatography is it used? **Stationary phase**
3. Name an acid that is an isomer of ethyl methanoate. **Propanoic acid**
4. What is the chemical symbol for the element tin? **Sn**
5. By what process does a perfume smell travel through a room? **Diffusion**
6. The EU has agreed a deal for a COVID-19 vaccine with this biopharmaceutical company. Name it. **Pfizer**

Round 4

1. What are the 3 magnetic elements? **Iron, Nickel, Cobalt (Fe, Ni, Co)**
2. Glycerol is used for weight loss, improving exercise performance and reducing pressure inside the eye in people with glaucoma. It is also a byproduct of saponification. What is its IUPAC name? **Propan(e)-1,2,3-tri-ol**
3. Name this Swiss-Russian chemist who is regarded as the 'founder of thermochemistry'.
Germain Henri Hess
4. Which intermolecular force is responsible for the strength of Kevlar? **Hydrogen Bonding**
5. Cellulose acetate is the acetate ester of cellulose. Which organic acid is used to make it?
Ethanoic acid/ acetic acid/ CH₃COOH
6. Roy Plunkett discovered PTFE (Teflon) What does PTFE stand for?
Polytetrafluoroethene/ Polytetrafluoroethylene

Round 5

1. Recent findings from a study by the Boland Lab in Trinity College into the effects of increased exposure to heated liquids on Infant Feeding Bottles made the headlines. On average infants up to 1 year are exposed to 1 million of these per day. What are these small pieces of plastics known as? **Microplastics**
2. By mass, what is the most abundant element in the human body? **Oxygen/ O₂**
3. Identify the gas released when dilute sulfuric acid is dropped on zinc granules.
Hydrogen/ H₂
4. Identify this type of spectrum. **IR/Infra-Red**
5. Name the chemical process used extensively to extract oils from plants such as roses, lavender and cloves. **Steam distillation**
6. How many tetrahedral carbons in eugenol? **Two/2**

Round 6

1. Which organic acid do ants spray in self-defence? **Methanoic acid/ Formic acid**
2. Write a balanced chemical equation for the reaction of Mg ribbon with acetic acid. **Mg + 2CH₃COOH = (CH₃COO)₂Mg + H₂**
3. Name the technique used to extract eugenol from an emulsion of clove oil and water.
Liquid-liquid extraction/ Solvent extraction
4. EDTA binds to heavy metals and is used to treat acute and chronic lead poisoning by pulling it from the bloodstream. What does EDTA stand for?
EthyleneDiamineTetraAcetic acid
5. Name these three allotropes of carbon shown. **Diamond & graphite & buckminsterfullerene**
6. Which of the noble gases is most abundant in the atmosphere? **Argon/ Ar**