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| Enseignement secondaire | | |
| Classes internationales | | |
| | Régime anglophone | |
| Chimie | | |
| Programme | | |
| 3IEC | | |
| Leçons hebdomadaires: 2 | | |
| Langue véhiculaire: anglais | | |
| Nombre minimal de devoirs par trimestre: 1 | | |

Aims :

- To lay the foundation for sciences studies
- To develop scientific culture, scientific interests and curiosity
- To prepare chemistry teaching for the IB diploma
- To prepare students in developing the usefulness of chemical ideas for their future development
- To develop some difficulties to consider for solving environmental problems

Skills and objectives

- To develop the ability of observation
- To promote precise formulation
- To initiate scientific reasoning
- To develop manual skills in experimentation



Syllabus for the chemistry course

1. The mole concept (recall)

- Introduction of the mole
- Relations between quantity(mole), mass, particles, gases and concentration
- Calculations involving equations and the mole

2. Redox reactions

- Different type of redox reactions
- Definition of oxidation, reduction, oxidising and reducing agent
- Electron transfer in oxidoreduction reactions
- The oxidation state

3. Acids and Bases

- Acids and alkalis
- Reactions of acids and bases
- pH-scale
- Titrations of acids/bases

4. Introduction to organic chemistry

- Formulae, functional groups and terminology
- Naming organic compounds
- Use of chemical and physical properties in fuels
- Alkanes, alkenes, alcohols, carboxylic acids and polymers
- Fermentation to produce alcohol
- Introduction to other useful organic substances (polymers, carboxylic acids, esters, amino acids...)

5. Rates of reactions

- Definition
- Influence of concentration, temperature and catalysts

6. Energy change during chemical reactions

- Introduction to exothermic and endothermic reactions
- Energy in fuels

The students should get used to do practical work and do written reports on computer. About 1/4 of the time is used for practical work. The practical work includes experiments as titrations, introduction of the use of informatical data, precipitation reactions, use of indicators, mole concept.