



Enseignement secondaire		
Classes internationales		
	Régime anglophone	
Chimie		
Programme		
4IEC		
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

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. States of matter (recall)

- Introduction to particles
- Solids, liquids and gases
- Pure substances and mixtures
- Different separation methods

2. Structure of atoms

- Atoms, isotopes and particles in an atom
- Electronic structure of the atoms, shells
- Lewis structure

3. Bonding in atoms

- Ionic bonding
- Introduction to ions, charges and names of ionic compounds
- Properties of ionic compounds
- Covalent compounds and giant covalent compounds
- Bonding in metals

4. Periodic table

- Reactivity of some groups (alkali metals, halogens, noble gases)
- Short introduction to transition metals

5. Introduction to chemical formulae, names of chemical substances and equations.

- Standard names and formulae used for covalent substances, ionic substances, substances with transition metals
- Starting the chemical equation

6. Introduction to stoichiometric calculations

- Introduction of the relation between:
 - amount and mass
 - amount and number of particles, Avogadro's constant
 - amount and volume, molar volume, molar concentration
- Introduction of calculations based on a chemical equation

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 experimental design, flame coloration, titrations, introduction of the use of informatical data, precipitation reactions, identification of ions, use of indicators, mole concept.