



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

I. Organisation and maintenance of organisms

1. Organisms are made of cells

- Review cell structures and their corresponding functions (nucleus, cell membrane, mitochondrion, cytoplasm)
- Movement in and out of cells (diffusion, osmosis, active transport, phagocytosis)

2. Excretion and homeostasis

- Homeostasis: maintaining a steady state
- Control of glucose levels and body temperature
- Excretion: removal of the waste products of metabolism
- Dialysis and the treatment of kidney failure

3. Perception and interpretation, flow of information

3.1 humans

- Coordination: the nervous system
- Neurons can work together in reflex arcs
- The brain is the processor for the central nervous system
- Integration by the central nervous system
- Receptors and senses: the eye as a sense organ
- The endocrine system

3.2 plants

- Sensitivity and movement in plants: tropisms



II. Development of organisms and the continuity of life

1. Genetics

- Different forms of reproduction
- Variation and inheritance
- Structure of DNA
- DNA replication
- Protein synthesis
- Cell division
- Patterns of inheritance (including inherited medical conditions and codominance)
- Sex is determined by X and Y chromosomes
- Causes of variation
- Variation and natural selection: evolution of species
- Artificial selection
- Genetic engineering: gene transfer in plants and animals

III. Organisms and their environment

1. Ecology

- Levels of organization in an ecosystem
- Types of nutrition and feeding relationships
- Flow of energy: food chains and food webs
- Nutrient cycles (carbon cycle/nitrogen cycle)
- Factors affecting population size
- Pollution