

Enseignement secondaire				
Classes internationales				
Régime anglophone				
Physique				
Programme				
7IEC				

Leçons hebdomadaires: 2
Langue véhiculaire: anglais
Nombre minimal de devoirs par trimestre: 2

## Theory

	Topic	Subtopics	Contents	
1	Current electricity	Switches and current	<ul> <li>Explain how switches work</li> <li>Describe what happens when the number of bulbs in the circuit is changed</li> <li>Describe what a current is and how it is measured</li> </ul>	
		Series and parallel circuits	<ul> <li>Distinguish between series and parallel circuits</li> <li>Describe how changing the number or type of components in a circuit affects the current</li> </ul>	
		Voltage	<ul> <li>Describe how a voltmeter is used</li> <li>Explain the influence of the voltage on the current</li> </ul>	
		Using electricity	<ul> <li>Safety precautions to be followed when using electricity</li> <li>Explain how fuses and circuit breakers work</li> </ul>	
2	Sound	Sound production Sound transmission Sound detection Ultrasound	<ul> <li>How sound is produced</li> <li>Explain the link between frequency and pitch</li> <li>Explain the need of a material medium for sound to travel</li> <li>How to detect sound: ear, microphone</li> <li>Hearing ranges of human and animals</li> <li>Using sound: ultrasound, sonar and echolocation</li> <li>Effects of noise on humans and animals</li> </ul>	



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3	Energy and changes	Energy from food	<ul> <li>Discuss that our bodies need energy which we get from food</li> <li>Explain why different people need different amounts energy from food</li> <li>Introduce the unit for measuring energy (joule, kilojoule)</li> </ul>				
		Energy transfers and storage	<ul> <li>Describe the different ways in which energy is stored and transferred</li> </ul>				
		Fuels	- Discuss and compare fossil fuels and renewable fuels				
		Renewable energies	<ul> <li>Give examples of renewable energy sources</li> <li>Explain how the Sun is the original source for most of our energy resources</li> </ul>				
		Using resources	<ul> <li>Describe how to use less fossil fuels</li> <li>Advantages and disadvantages of fossil fuels</li> <li>Explain what efficiency means</li> </ul>				
4	Forces and pressure	Different forces Pressure	<ul> <li>Discuss the effects of forces on an object</li> <li>Name forces and distinguish between contact and non-contact forces</li> <li>Explain the difference between mass and weight</li> <li>Describe how to measure forces, masses and state their units</li> <li>Explain pressure</li> </ul>				
			<ul> <li>Calculate pressure</li> <li>Describe effects of high and low pressure</li> </ul>				
5	Units ( to be taught within the individual chapters)	SI units	<ul> <li>Explain why scientists use SI units</li> <li>Record numbers using suitable units</li> <li>Use prefixes and symbols in the SI system</li> </ul>				



## **General skills:**

- 1. Use of command terms
- 2. Summarize key points in a text
- 3. Use of tables
- 4. Writing a method
- 5. Charts and graphs (see chemistry and physics)
  - o Present information as bar charts or scatter graphs
  - o Identify relationships using scatter graphs (proportionality)
  - Analyze and describe trends of a graph
- 6. Modelling in science: how to use them in science and testing them
- 7. Use suitable units

## **Practical work Suggestions**

The practical activities are an important an integral part of the course.

	<u>Topic</u>	Contents		
	Scientific method	<ul> <li>State the purpose of and the common steps in the scientific method</li> <li>Describe the role of scientific questions in the scientific method</li> <li>Identify scientific, non-scientific and ethical questions</li> <li>Describe and use the convention for investigation reports (Aim and research question, hypothesis, method, apparatus, results, conclusion, evaluation)</li> <li>Explain what a fair test is and make fair comparisons of results</li> </ul>		
1	Current Electricity	<ul> <li>Series and parallel circuits with switches</li> <li>Series and parallel circuits with lamps</li> <li>Conductors and insulators (solids and liquids)</li> </ul>		
2	Sound	- Sound sources		
3	Energy and energy changes	- Energy in different foods		
4	Forces and pressure	<ul> <li>Measure masses, weight and forces</li> <li>Investigate pressure on solids</li> </ul>		