



<b>Enseignement secondaire</b>		
<b>Classes internationales</b>		
	<b>Régime anglophone</b>	
<b>Physique</b>		
<b>Programme</b>		
<b>6IEC</b>		

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

## Theory

	<u>Topic</u>		<u>Contents</u>
<b>1</b>	<b>Fluids</b>	Particle model	<ul style="list-style-type: none"><li>- Describe the properties of different states of matter</li><li>- Explain the properties in terms of the particle model</li><li>- Explain why materials expand and contract when the temperature changes</li></ul>
		Density	<ul style="list-style-type: none"><li>- Use the formula relating volume, mass and density of an object</li></ul>
		Changing state	<ul style="list-style-type: none"><li>- State the temperature of a substance does not change when it changes state</li><li>- Describe what happens to particles during changes of state</li></ul>
		Pressure in fluids	<ul style="list-style-type: none"><li>- Describe how fluid pressure changes with depth or height</li><li>- Describe how gas pressure can be increased</li><li>- Use particle model to explain some effects of pressure</li></ul>
		Floating and sinking	<ul style="list-style-type: none"><li>- Describe what is meant by upthrust</li><li>- Explain why some objects float</li><li>- Use ideas about density in my explanations</li></ul>



<b>2</b>	<b>Light</b>	Light on the move	<ul style="list-style-type: none"><li>- Explain why we can see objects</li><li>- Compare light and sound waves</li><li>- Describe what happens to light when it hits different objects</li></ul>
		Reflection	<ul style="list-style-type: none"><li>- Describe how to demonstrate that light travels in straight lines</li><li>- Describe how mirrors and rough surfaces reflect light</li></ul>
		Colour	<ul style="list-style-type: none"><li>- Describe how an image is formed in a mirror</li><li>- Describe how to make a spectrum</li><li>- Explain why coloured objects appear coloured</li></ul>
<b>3</b>	<b>Energy transfers</b>	Temperature changes: internal energy and temperature	<ul style="list-style-type: none"><li>- Explain how internal energy and temperature are different</li><li>- Identify the direction in which energy will be transferred</li><li>- Explain evaporation</li></ul>
		Transferring energy	<ul style="list-style-type: none"><li>- Explain how energy is transferred by conduction, convection, radiation</li><li>- Use the particle model to explain energy transfers in matter</li><li>- Controlling transfers</li><li>- Discuss how to reduce energy transfers</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 (proportional relationship)
  - o Analyze and describe trends of a graph
6. Modelling in science: how to use them in science and testing them
7. Calculating with simple formulae  $y = a \text{ times } x$
8. Measuring angles
9. Understand accuracy and precision
10. Understand random and systematic errors
11. Rounding numbers



## Practicals

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

	<u>Topic</u>	<u>Contents</u>
	<b>Scientific method</b>	<ul style="list-style-type: none"><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	<b>Fluids</b>	<ul style="list-style-type: none"><li>- How do we find the density of a material / object?</li><li>- Explore factors that affect the amount of upthrust</li><li>- Temperature measurement</li><li>- Temperature curve during change of state</li></ul>
2	<b>Light</b>	<ul style="list-style-type: none"><li>- Propagation of light</li><li>- Reflection</li><li>- Shadows</li></ul>
3	<b>Energy transfers</b>	<ul style="list-style-type: none"><li>- Insulation</li><li>- Thermal conductivity</li><li>- Ice cube challenge</li></ul>