



Enseignement secondaire		
Classes internationales		
	Régime anglophone	
Physique		
Programme		
6IEC		

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

Theory

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



2	Light	Light on the move	<ul style="list-style-type: none">- Explain why we can see objects- Compare light and sound waves- Describe what happens to light when it hits different objects
		Reflection	<ul style="list-style-type: none">- Describe how to demonstrate that light travels in straight lines- Describe how mirrors and rough surfaces reflect light
		Colour	<ul style="list-style-type: none">- Describe how an image is formed in a mirror- Describe how to make a spectrum- Explain why coloured objects appear coloured
3	Energy transfers	Temperature changes: internal energy and temperature	<ul style="list-style-type: none">- Explain how internal energy and temperature are different- Identify the direction in which energy will be transferred- Explain evaporation
		Transferring energy	<ul style="list-style-type: none">- Explain how energy is transferred by conduction, convection, radiation- Use the particle model to explain energy transfers in matter- Controlling transfers- Discuss how to reduce energy transfers

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)
 - Present information as bar charts or scatter graphs
 - Identify relationships using scatter graphs (proportional relationship)
 - 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>
	Scientific method	<ul style="list-style-type: none">- State the purpose of and the common steps in the scientific method- Describe the role of scientific questions in the scientific method- Identify scientific, non-scientific and ethical questions- Describe and use the convention for investigation reports (Aim and research question, hypothesis, method, apparatus, results, conclusion, evaluation)- Explain what a fair test is and make fair comparisons of results
1	Fluids	<ul style="list-style-type: none">- How do we find the density of a material / object?- Explore factors that affect the amount of upthrust- Temperature measurement- Temperature curve during change of state
2	Light	<ul style="list-style-type: none">- Propagation of light- Reflection- Shadows
3	Energy transfers	<ul style="list-style-type: none">- Insulation- Thermal conductivity- Ice cube challenge