



<b>Enseignement secondaire</b>		
<b>Classes internationales</b>		
	<b>Régime anglophone</b>	
<b>Chimie</b>		
<b>Programme</b>		
<b>6IEC</b>		
Leçons hebdomadaires: 2		
Langue véhiculaire: anglais		
Nombre minimal de devoirs par trimestre: 1		

## Theory

	<b><u>Topic</u></b>	<b><u>Teaching hours</u></b>	<b><u>Contents</u></b>	<b><u>Methods</u></b>
1	Materials, elements and compounds	11	Sorting data  Air as a mixture  Earth's elements	<ul style="list-style-type: none"><li>- Drawing, using and interpreting tables, bar charts, pie charts and scatter graphs</li><li>- Recognise the difference between atoms and molecules</li><li>- Identify elements, mixtures and compounds from descriptions and particle diagrams</li><li>- Chemical symbols for common elements</li><li>- Different elements have different properties</li><li>- Resources of elements are limited</li></ul>



			Metals and non-metals  Making and naming compounds  Chemical reactions	<ul style="list-style-type: none"><li>- Describe and identify metals and non-metals by their properties</li><li>- Relate the use of an element to its properties</li><li>- Observe changes when a chemical reaction takes place</li><li>- Name simple compounds</li><li>- Use and understand word equations for chemical reactions</li><li>- Decomposition reactions</li></ul>
2	Combustions	12	Engines, Burning fuels.  Oxidation.  Conservation of mass.  Fire safety and fire extinguishers.  Air pollution.  Global warming.	<ul style="list-style-type: none"><li>- Describe the reactions of hydrogen and hydrocarbons with oxygen.</li><li>- Use word equations to model combustion reactions.</li><li>- Describe oxidation reactions of metals and non-metals.</li><li>- Explain changes in mass seen in oxidation reactions (law of conservation of mass).</li><li>- Use the fire triangle to explain how to control a fire.</li><li>- Identify hazard symbols for substances likely to cause fire.</li><li>- Describe pollutants that are formed by burning fuels.</li><li>- Explain how these pollutants cause problems and how their effects can be reduced.</li><li>- Describe the greenhouse effect and how it is caused</li><li>- Explain how human activity may be causing global warming.</li><li>- Explain how global warming can be reduced</li></ul>



			Information and explanation text. Reducing pollution. Fireworks.	<ul style="list-style-type: none"><li>- Identify information text and explanation text.</li><li>- Use the structure of a text to help with answering questions.</li><li>- Describe how pollution caused by cars can be reduced in the future.</li></ul>
3	The periodic table.	10	Dalton's atomic model.  Chemical properties.  Mendeleev's table.  Physical trends.  Chemical trends.	<ul style="list-style-type: none"><li>- Describe Dalton's atomic theory.</li><li>- Describe elements using physical properties.</li><li>- Write and identify the chemical symbols for elements.</li><li>- Explain the difference between physical and chemical changes and properties</li><li>- Use atomic theory to explain what happens during chemical reactions.</li><li>- Write and interpret chemical formulae.</li><li>- Use the periodic table to find elements with similar properties.</li><li>- Describe some typical properties of alkali metals, halogens and noble gases.</li><li>- Describe how the periodic table is arranged.</li><li>- Explain melting, freezing and boiling points, and use them to predict the state of a substance.</li><li>- Describe and identify trends in physical properties within the periodic table.</li><li>- Identify metals and non-metals by their properties and position in the periodic table.</li><li>- Describe the reactions of some elements with water and oxygen.</li></ul>



				<ul style="list-style-type: none"><li>- Identify trends and make predictions about chemical properties using the periodic table. ( Use of alkali metal compounds in fireworks, Firework ban)</li></ul>
4	Materials and their uses.	12	Building up.  Metal properties.  Corrosion.  Metals and water.  Metals and acids.  Pure metals and alloys.	<ul style="list-style-type: none"><li>- Name different materials used in building different structures (houses, tall structures).</li><li>- Explain why some materials are better suitable for building than others.</li><li>- Describe some common properties and uses of metals</li><li>- Write word equations for the reactions of metals and non-metals.</li><li>- Describe what a catalyst is and some uses of catalysts.</li><li>- Describe what happens during corrosion and rusting.</li><li>- Explain how metals can be protected from corrosion.</li><li>- Identify the products and reactants using a symbol equation.</li><li>- Describe the reactions of metals with water.</li><li>- Place metals in order of reactivity.</li><li>- Write word and symbol equations for reactions.</li><li>- Describe the reactions with acids.</li><li>- Place metals in order of reactivity.</li><li>- Write word and symbol equations for reactions.</li><li>- Explain what alloys are and why they are used.</li><li>- Use models to explain the properties of alloys.</li></ul>



			Metals in the art.	- Identify pure substances by their melting points and boiling points.
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## Practicals

	<u>Topic</u>	<u>Teaching hours</u>	<u>Contents</u>	<u>Methods</u>
1	Safety in the lab.	2	Hazards  Controlling risks.	<ul style="list-style-type: none"><li>- Recognize some common hazard symbols.</li><li>- Explain why hazard symbols are necessary.</li><li>- Plan and explain safety precautions.</li><li>- Recognize hazards and explain how the risks can be controlled.</li><li>- Identify hazards when heating and describe how to reduce risks.</li></ul>
2	Metals and non-metals	2	Properties of non-metals and metals	Use experiments to show differences <ul style="list-style-type: none"><li>- Melting temperature</li><li>- Conductivity of heat (with different metals)</li><li>- Conductivity of electricity</li><li>- Density</li></ul>
3	Combustions.	5	Combustions in air and in pure oxygen.  Fair testing. (Independent variable, dependent variable, control variables.  Conservation of mass.  Fireworks	<ul style="list-style-type: none"><li>- Combustion of hydrocarbons (candle).</li><li>- Test for carbon dioxide,</li><li>- Test for water.</li><li>- Combustion of metals and non-metals.</li><li>- Identify independent and dependent variables in a test.</li><li>- Identify control variables in an experiment and describe how to control it.</li><li>- Explain why it is important to carry out a fair test.</li><li>- Production of sparklers.</li></ul>



4	Analysis of data.	3	Anomalous results.  Describing materials  Quality evidence.	<ul style="list-style-type: none"><li>- Explain what is meant by an anomalous result (outliers).</li><li>- Identify anomalous results and the range of readings in data.</li><li>- Suggest reasons for anomalous results/outlier. Describe substances accurately using adjectives.</li><li>- Identify and explain adjectives used in science.</li><li>- Explain what it means by accurate data.</li><li>- Identify data that is, or is not, reliable, repeatable or reproducible.</li><li>- Explain how to improve the quality of data collected during an investigation.</li></ul>
5	Physical and chemical properties.	4		<ul style="list-style-type: none"><li>- Physical and chemical change.</li><li>- Melting and boiling points of different substances.</li><li>- Reaction of metals with acids.</li><li>- Test for hydrogen.</li><li>- Different factors influencing rusting of iron.</li></ul>