

CURRICULUM SUMMARY – September to October 2010

SUBJECT: Chemistry

YEAR GROUP: 10 / 11

TEACHER: Ardeshir Rana

Week	Learning objectives	Activities (in brief)
1	<p>Be able to describe the periodic table as a method of classifying elements and its use to predict properties of elements</p> <p>Be able to describe the change from metallic to non-metallic character across a period</p> <p>Be able to relate the group number to the number of valency electron and metallic / non-metallic character</p>	<p>Handing out of the periodic table and colour coding the periodic table</p> <p>Quiz on the periodic table along with the power point on the periodic table</p> <p>Story of the periodic table</p> <p>Class discussion on the layout of the periodic table</p> <p>Drawing of the atomic structures of the first 20 elements in the periodic table and placing them in an order without looking at the periodic table</p>
2	<p>Be able to describe the properties of group I, II and VII properties</p> <p>Be able to predict the properties of elements in these groups</p> <p>Be able to identify trends in other groups, given information about the elements concerned</p> <p>Be able to describe the properties of transition elements</p>	<p>Practical, “reacting group I metals with cold water and oxygen” to predict the properties</p> <p>Video clip on reacting group I’s more reactive elements with water</p> <p>Class discussion on the properties of the other groups and properties across period</p> <p>Past paper questions</p> <p>Practical, “observation of transition metals and their compounds”</p> <p>Class discussion on transition metals</p> <p>Past paper questions on transition metals</p>
3	<p>Be able to describe the properties of noble gases and their uses</p> <p>Assessment</p>	<p>Power point on noble gases and class discussion relating the properties with atomic structure</p> <p>Past paper questions on noble gases</p> <p>End of topic test</p>
4	<p>Be able to describe the physical and chemical properties of metals</p> <p>Be able to explain the uses of alloys and represent the alloys in form of diagram</p> <p>Be able to place major elements in the order of reactivity</p> <p>Relate the reactivity of metals to the extraction method</p> <p>Be able to explain the action of heat on hydroxides and nitrates of some major metals</p>	<p>Practical, “testing materials for metals or non-metals, using sulphur, graphite, Mg, Fe, Cu, Al”</p> <p>Power point on metals and non-metals with work sheet and past paper questions.</p> <p>Power point on alloys and past paper questions</p> <p>Drawing of diagrams representing alloys</p> <p>Practical, “displacement reaction to find out the reactivity series”</p> <p>Demonstration of reactions of metal with water and with weak acids to deduce the reactivity series</p> <p>Power point on Aluminum</p> <p>Practical, “heating of nitrates and hydroxides” with observation sheet</p>

	Be able to explain the apparent unreactivity of aluminum	Past paper questions
5	Be able to describe the steps in the extraction of iron and aluminum Be able to explain the extraction of Zinc from zinc blende Be able to list the uses of aluminum and relate the use to its properties Be able to describe galvanizing and its uses Be able to outline the uses of copper Be able to describe the changing properties of iron by the controlled uses of additives	Power point on extraction of iron and past paper question Power point on extraction of aluminum and past paper questions Power point on the extraction of zinc Past paper questions Class discussion on uses of aluminum and relate the uses with its physical and chemical properties Class discussion on the uses of galvanizing and difference between galvanizing and electrolysis Power point on various alloys of iron Project on making posters showing various alloys of iron and their uses
6	Assessment Be able to identify the products at the electrodes of molten lead bromide, con HCl, con NaCl solution Be able to state the general principle of electrolysis Be able to predict the products of electrolysis of specified binary compound in the molten state Be able to describe the electroplating of metals and its uses Be able to describe the purification of copper Be able to outline the production of chlorine and sodium hydroxide by electrolysis	End of topic test Practical, "electrolysis of HCl and NaCl" with past paper questions to note down observations of the practical Power point on electrolysis, with work sheet Past paper questions and class discussion on the possible products of electrolysis of compounds in molten form Practical, "Electroplating various objects using copper sulphate, iron nitrate, and magnesium chloride" Practical, "purifying copper using an old copper wire" with power point on purification of copper Practical, "electrolysis of con and dilute NaCl solution" with past paper questions
7	Be able to relate the products of electrolysis to the electrolyte and electrodes used Assessment	Practical, "Electrolysis using various metals as electrodes and various solutions as electrolyte" Work sheet to note down observations End of half term exam

SUBJECT: IB CHEMISTRY

YEAR GROUP IB1 &2

TEACHER: MRS. ASIA PEPLINSKA

Week	Learning objectives	Activities (in brief)
1	N/A AS IB OUT ON TEAM BUILDING	
2	Introduction to IB Chemistry Brief discussion of expectations and timelines	Power Point presentation Using equipment to illustrate uncertainties

	<p>Topic 1- Measurement and Data: To be able to describe and give examples of random uncertainties and systematic errors To be able to state uncertainties as % or absolute values as well as determine these in results To know and be able to describe how effects of uncertainties can be reduced To be able to use the appropriate graphical technique for displaying data</p> <p>Topic 2 – Atomic Theory: To be able to describe composition of the atom To be able to explain the use of a mass spectrometer To know how to determine electron configuration</p>	<p>Worksheets and exam style questions to illustrate and practice determination of errors Completion of a series of graphs fit for purpose</p>
3	<p>To be able to explain the use of a mass spectrometer To know how to determine electron configuration</p>	<p>Power point presentation, exam style questions and worksheets Visit to university to see Mass spectrometer Completion of topic summaries Test on Measurement and Data and Atomic Theory</p>
4		
5	<p>Topic 3- Quantitative Chemistry To be able to define the Mole Concept and discuss Avogadro's Constant To understand the concept of Formulae To be able to give chemical equations for reactions To understand and describe relationships of mass with gaseous volume in reactions To understand and be able to solve problems of solutions regarding concentrations, amount of solute and volume of solution</p>	<p>Power point presentation, exam style questions and worksheets Experimental work determining Molar Mass, Molecular Formula etc. titration work wrt. Solutions Preparation of topic summary Revision of topic for test after half term</p>
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