Holyport College Sixth Form
Year 11 Transition Work

CHEMISTRY

Links to Essential Resources

1. Bridging the gap to chemistry – student work booklet -- Print and Complete for September
2. GCSE chemistry revision guide 1 and revision guide 2
3. GCSE chemistry video clips and E resources
4. Structure, bonding and properties summary sheet
5. Introduction to A-level Chemistry Pamphlet and Reading List

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Core GCSE Topic -- ALL	**Optional Extension/Enrichment – Hard-Core Chemists**
Calculations in chemistry 1	How many atoms in your body were once in William Shakespeare?
Calculations in chemistry 2 -- Triple Students AND A-level Candidates Only	What is the volume of: 1 kg of water; 1 kg of steam. How many water molecules are there in your body?. What volume of gas does 1 kg TNT produce? Titration problems in booklet (pge 20)
Atomic structure	Research shells, sub-shells and orbitals, and use SPDF notation to show the electron arrangements of Li, Na, K, F, Cl, He, Ne and Ar.
Ionic and covalent bonding	What shape are the following molecules: water, ammonia, methane? What are: sigma, pi and coordinate bonds?
Structure, bonding and properties	Explain why: helium is a solid at absolute zero; H_2O is a liquid at room temperature whereas H_2S is a gas; ice floats on water; Gecko's can walk up walls.
The Periodic Table and Reactivity of the Elements	What is the relationship between the position of an element in the periodic table and its electron arrangement?
Patterns in Reactions	
Oxidation and Reduction	What is the difference between sodium nitrate(III) and sodium nitrate(V)?
Reactions of Acids	Why is the pH of: pure water = 7; 1M HCl = 0, 0.1 M HCl = 1?
Energy Changes	How much energy is needed to boil 1 L of water? Q = m.c.Dt
Equilibria	Why is Fritz Haber known as the chemist of life and death?
Reaction Rates	Use the "Boltzmann Distribution" to describe why reactions go faster when you use catalysts or higher temperatures