	Chemistry Paper 2 Tick List			
C6 Rates and Equilibrium				
1.	Calculate the mean rate of reaction			
2.	Draw and interpret graphs on rate of reaction			
3.	**Calculate the gradient of a tangent to the curve on these graphs as a measure of rate of reaction at a specific time**			
4.	Use collision theory and ideas of proportionality to describe the effect of temperature, pressure, concentration, surface area and catalyst on the rate of reaction			
5.	Describe what activation energy			
6.	Explain the effect of catalysts on activation energy, show this effect on an energy level diagram			
7.	Describe what a reversible reaction is and be able to represent it in an equation			
8.	Give examples of reversible reactions, including hydrated and anhydrous copper sulfate and the thermal decomposition of ammonium chloride			
9.	Describe the energy transferred on both sides of the equation			
10.	Describe what dynamic equilibria is			
11.	**Use Le Chatelier's Principle to describe the effects of changing conditions on a system at equilibrium**			
12.	**Describe and evaluate how changing the conditions in terms of the concentration of reactants and products, pressure and temperature all effect a reaction including the yield**			
C7 Organic Chemistry/Crude Oil				
13.	Describe what crude oil is			
14.	Describe how we can separate crude oil in fractional distillation			
15.	Give uses for the different fractions			
16.	Describe the properties of different sized hydrocarbons, including boiling point, viscosity and flammability			
17.	Describe the structure of alkanes give their general formula			
18.	Name the first four alkanes			
19.	Write balanced symbol equations for complete and incomplete combustion			
20.	Describe the differences between complete and incomplete combustion			
21.	Describe why hydrocarbons are cracked, identify products of cracking			
22.	Explain the conditions for catalytic and steam cracking			
23.	Describe what an alkene is and what they are used for, describe their reactivity compared to alkanes			
24.	Recall the colour change when an alkene reacts with bromine water			

C8 Chemical Analysis				
25.	Define what a pure substance is and explain how they can be identified			
26.	Describe what a formulation is and how it can be produced			
27.	Describe a method for carrying out paper chromatography and calculate the Rf value			
28.	Describe the tests for hydrogen, oxygen, carbon dioxide and chlorine			
C9 The Earth's Atmosphere				
29.	State the amount composition of gases in today's atmosphere using ratios, fractions and percentages			
30.	Describe the evolution of the Earth's atmosphere, describe likely causes of these changes			
31.	Describe the greenhouse effect and name greenhouse gases			
32.	Describe how human activities have increased the amount of carbon dioxide and methane in the atmosphere			
33.	Evaluate the evidence on climate change			
34.	Describe the potential effects of global climate change and discuss the implications of global climate change.			
35.	Describe what the carbon footprint is and how it can be reduced			
36.	Describe how, carbon monoxide, carbon dioxide, sulfur dioxide, nitrogen oxides and particulates are formed and the problems caused by them			
C10 Using Resources				
37.	Define finite and renewable resources and give examples of both			
38.	State examples of natural products that are supplemented or replaced by agricultural and synthetic products			
39.	Describe the difference between potable water and pure water			
40.	Describe how to treat potable water and salty water (distillation and reverse osmosis)			
41.	Describe the method for sewage treatment			
42.	Describe how high grade copper is extracted by smelting and sulfuric acid			
43.	Describe how low grade copper can be extracted using bioleaching and phytomining			
44.	Describe how copper can be purified from solutions using electrolysis and scrap iron			
45.	Describe what Life Cycle Assessment is and the stages involved			
46.	Carry out simplified LCA's for shopping bags			
47.	Describe ways of reducing waste by' reduce, reuse and recycle'			