

**Chemistry combined science and separate chemistry (\*bold is chemistry only)****Year: 11**

In year 11 pupils have 5 lessons of chemistry every 2 weeks. They follow this sequence of lessons:

Half term 1 The rate and extent of chemical change	Half term 1 & 2 Hydrocarbons	Half term 2 & 3 Chemical analysis	Half term 3 The atmosphere	Half term 3 & 4 Sustainable development
Measuring rates Collision theory and surface area The effect of temperature The effect of concentration and pressure The effect of catalysts Required practical rates of reaction Reversible reactions and energy changes Equilibrium Changing concentrations and equilibrium Changing temperature and equilibrium Changing pressure and equilibrium	Crude oil, hydrocarbons and alkanes Fractional distillation (HT) Properties of hydrocarbons Combustion Cracking and alkenes <b>Structure and formula of alkenes</b> <b>Reactions of alkenes</b> <b>Alcohols</b> <b>Carboxylic acids</b> <b>Additional polymerisation</b> <b>Condensing polymerisation</b> <b>Amino acids</b> <b>DNA</b>	Pure substances Formulations Chromatography Required practical chromatography Test for gases <b>Flames tests</b> <b>Metal hydroxides</b> <b>Tests for anions</b> <b>Required practicals testing ionic compounds</b> <b>Instrumental methods</b> <b>Flame emission spectroscopy</b>	Gases in the atmosphere and early atmosphere How oxygen increased and carbon dioxide decreased Greenhouse gases Human activities and climate change Carbon footprint reduction and limitations Atmospheric pollutants from fuel Properties of atmospheric pollutants	Resources and sustainable development Potable water Potable water required practical Waste water treatment Metal extraction (HT) Life cycle assessment Reducing the use of resources <b>Corrosion</b> <b>Alloys</b> <b>Ceramics, polymers and composites</b> <b>Haber process</b> <b>NPK fertilisers</b>

*Ludus Admirandus*