Anthony Gell School

Chemistry Learning Journey

Beyond AGS

Or just continue to develop an interest in chemistry and develop life-long learning.

Chemistry related careers...

- Chemical engineer
- Researcher
- Science writer
- Forensic science
- Analytical chemist
- Wastewater operator
- Doctor
- Technician
- Synthetic chemist
- Pharmacologist
- Nutritionist
- Quality control
- Hazardous waste chemist

Continuing to study a chemistry related course...

- Chemical engineering
- Biochemistry
- Medicine
- Organic chemistry
- Inorganic chemistry
- Physical chemistry
- Analytical chemistry
- Material science
- Environmental chemistry
- Nuclear chemistry
- Polymer chemistry

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- Chromatography
- Organic synthesis
- Polymers
- Aromatic chemistry
- Aldehydes and ketones
- Reactions of ions in solutions
- Period 3
- NMR
- Animo acids, proteins and DNA
- Amines
- Carboxylic acids and their derivatives
- Optical isomerism
- Transition metals
- Acids and bases
- Electrochemistry
- Equilibrium constant/ Kp
- Rate equation
- Thermo-dynamics

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- Atomic structure
- Bonding
- Kinetics
- Redox equations
- Group 2 and group 7
- Amount of substance
- Energetics
- Chemical equilibria
- Periodicity
- Organic chemistry
  - Alkanes and halogenoalkanes
  - Alkenes
  - Alcohols
  - Organic analysis
- **Using resources 2 (Sep)**
  - Corrosion
  - Alloys
  - Ceramics
  - Haber process
  - Eqlbm.
- **Using resources 1**
  - Potable water
  - Waste water
  - LCA's

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- **Chemical analysis 2 (Sep)**
  - Anion and cation tests
  - Instrumental methods
- **Chemical analysis 1**
  - Pure or formulation
  - Chromatography
  - Chemical tests
- **Organic chemistry 2 (Sep)**
  - Alkenes
  - Alcohols
  - Carboxylic acids
  - Polymers
  - Amino acids
- **Organic chemistry 1**
  - Hydrocarbons
  - Fractional distillation
  - Cracking and fuels
  - Combustion
- **Atmospheric science**
  - Evolution of the atmosphere
  - Pollutants
  - Climate change
- **Moles (HT + Sep)**
  - Using moles
  - Mass calculations using moles
- **Electrolytic processes**
  - Molten electrolysis
  - Aqueous electrolysis
  - Extracting metals
- **Rates of reaction**
  - Measuring
  - Factors affecting
  - Graphical
  - Equilibrium (HT)

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- **Periodic table**
  - History
  - Group 0
  - Group 1
  - Group 7
- **Obtaining and using metals**
  - Reactivity
  - Extracting metals
  - Displacement reactions
- **Properties of structures**
  - States of matter
  - Ionic & metallic
  - Molecular & giant covalent
  - Nanoparticles
- **Acid and alkali**
  - Looking at acids
  - Bases and salts
  - Making salts
  - Solubility of salts
- **Cells and batteries (Sep)**
  - Cells
  - Hydrogen fuel cells
- **Heat energy changes**
  - Exothermic
  - Endothermic
  - Bond energies
- **Quantitative**
  - Formula mass
  - % of element in compounds
  - Molecular and empirical

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- **Bonding**
  - Ion charges
  - Ionic bonding
  - Covalent bonding
  - Metallic bonding
  - Formula
- **Separating mixtures**
  - Pure/ impure
  - Boiling points
  - Separation techniques
- **Atomic structure**
  - History
  - Sub-atomic particles
  - Electron structure
- **C15: Rock cycle**
  - Types of rocks
  - Fossils
  - Rock cycle
- **C13: Weathering an erosion**
  - Weathering
  - Erosion
- **C12: Acid and bases**
  - Indicators
  - PH scale
  - Bases/ alkalis
  - Neutralisation
  - Salts and products

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- **C7: Earth's resources**
  - Minerals
  - Earth's structure
  - Plate tectonics
  - Igneous rock
- **C8: Understanding chemical reactions**
  - Equations
  - Conservation of mass
  - Displacement
  - Combustion
- **C9: Air pollution**
  - Air composition
  - Air pollution
  - Spreading pollutants
- **C10: Evaporation**
  - Different liquids
  - Location
  - Particles
- **C11: Energy in reactions**
  - Exothermic
  - Endothermic
  - Explaining
- **C6: Chemical changes**
  - Making compounds
  - Physical & chemical changes
- **C5: Comparing solubility**
  - Saturation
  - Solubility
  - Solvents

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- **C4: Polymers**
  - Making polymers
  - Tensile strength
  - Alternatives Evaluating
- **C3: Elements and compounds**
  - Atoms/ molecules
  - Properties
  - Element/ compounds
  - Symbols/ formula
- **C2: Substance and mixtures**
  - Solid, liquid gas
  - Particle model
  - Change of state
  - Pure and mixture
  - Separating mixtures
- **C1: Materials**
  - Properties
  - Composite materials
  - Testing materials
  - Classifying

Primary School

- Rocks, soil and their properties
- Fossils
- Solid, liquid and gas classification
- Changing state of materials
- Melting and boiling point
- Water cycle
- Material properties and classifying
- Solutions
- Separating mixtures – from solution, filtering and evaporating.
- Explain the use of certain materials
- Reversible changes: dissolving, mixing and changes of state.
- Changes that make new materials; including burning and acid with bicarbonate of soda.