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| **What will we be learning?****C3 – Quantitative Chemistry**  | **Why this? Why now?****Previous Learning** Atomic structure, bonding and structure**What other GCSE Science units does this unit relate to?**Chemistry – Bonding and Structure, Chemical Changes, Energy ChangesBiology - nonePhysics - All – maths skills and equations | **Key Words:**Conservation of massReactantProductThermal decompositionOxidationBalanced equationRelative formula massMole Avogadros constantReacting ratioLimiting reactantExcessYield Percentage yieldAtom economyGas volumeConcentrationMol/dm3g/dm3TitrationConcordant results |
| **What will we learn?*** Chemical measurements, conservation of mass and the quantitative interpretation of chemical equations
* Use of amount of substance in relation to masses of pure substances
* Yield and atom economy of chemical reactions
* Using concentrations of solutions in mol/dm3
* Use of amount of substance in relation to volumes of gases

**Useful equations/formulae/maths skills for this unit:**n = m / Mr % yield = (actual/theoretical) x 100 rearranging equationsn = c x v % AE = (desired product/all reactants) x 100 conversion of unitsn = V / 24 significant figures and standard form **Misconceptions in this topic**Conservation of mass MolesBalancing equations Volume conversion cm3 to dm3Relative atomic mass Limiting reactants and excessRelative formula mass Concordant results |
| **What opportunities are there for wider study?****If you are interested in this unit, what careers does it relate to?**Industrial chemistry Research chemist Chemical engineer Analytical chemistry Make-up chemist Materials chemistDrug manufacturing Formula 1 technician – fuels and energy |
| **How will I be assessed?****End of topic assessment**  |