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| **What will we be learning?**C5- Energy Changes | **Why this? Why now?**Chemistry- Structure and Bonding, Quantitative Chemistry, Organic ChemistryBiology- BioenergeticsPhysics- EnergySeparate Chemistry | **Key Words:**ExothermicEndothermicReversible reactionActivation energyEnergy level diagramReaction profileCatalystReactantProductCombustionOxidationNeutralisationBond makingBond breakingElectrodeElectrolyteNon-rechargeable cell BatteryFuel CellHalf equation |
| **What will we learn?**Overall Energy Change= Energy to break bonds- Energy to make bondsCalculating mean averages Data interpretationConversion of units Rearranging equationsHalf equations for the hydrogen fuel cell:2H2(g)→ 4H+ + 4e**-** O2 + 4H+ +4e- → 2H2O**Common Misconceptions:**Conservation of EnergyAn endothermic reaction is one that takes in energy from the surroundings, so the temperature of the surroundings decreases.An exothermic reaction is one that releases energy to the surroundings, so the temperature of the surroundings increases. |
| **What opportunities are there for wider study?****Collins Revision guide relevant pages for this unit:**Page 56-59, 78, 98Chemical Engineer Energy Consultant Energy TraderHeating Engineer Renewable and sustainable energy technologiesFormula1 technician- Fuels and Energy Data Analyst Chemical Physicist Aerospace Engineer |
| **How will I be assessed?****Deep Marking Task Title for this unit:** Temperature changes required practical**Required Practical(s) for this unit:** Investigate the variables that affect temperature changes in reacting solutions such as, eg acidplus metals, acid plus carbonates, neutralisations, displacement of metals. |