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| **What will we be learning?****Capacitance**Acquisition with solid fill | **Why this? Why now?**Previous Learning Charge and current, Energy, power and resistance, Electrical Circuits, Stars, Cosmology, Newton’s Laws of Motion and Momentum, Gravitational FieldsFuture Learning Electric Fields, Magnetic Fields.Enquiry ProcessesIdentify Variables, Collect Data, Present Data, Analyse Patterns, Manipulate Equations, Draw Conclusions, Justify opinions and conclusions.  | **Key Words:**CapacitorCapacitanceDielectricFaradExponential decayLogarithmsTime constantSmoothing |
| **What will we learn?**Charging and discharging of capacitors in terms of the flow of electronsThe unit of the FaradCalculating capacitance in series and parallelInvestigation of circuits containing capacitorsP.D. – charge graphs for capacitorsEnergy stored by capacitorsCharging a capacitor through a resistorApplying capacitance equations for charging and discharging**Misconceptions in this topic*** The abbreviation for Capacitance is C which can be confused with charge which is Q
* The units for capacitance are Farads (F) but the units for Coulombs (charge) are C!!
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| **What opportunities are there for wider study?**Careers – Electrical Engineer, Electronic Engineer, Aviation, Defence Specialist, Astrophysicist, Theoretical Physicist, Space Engineer, Rocket Scientist, Astronaut, Satellite Designer.STE(A)M – For details of courses and opportunities look at:<https://highcliffe.sharepoint.com/sites/LearnSTEM> |
| **How will I be assessed?**End of Topic Assessment, A2 Paper Assessments |