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| **What will we be learning?**  **Gravitational Fields**  Uranus with solid fill | **Why this? Why now?**  Previous Learning  Stars, Cosmology, Newton’s Laws of Motion and Momentum  Future Learning  Electric Fields, Magnetic Fields.  Enquiry Processes  Identify Variables, Collect Data, Present Data, Analyse Patterns, Manipulate Equations, Draw Conclusions, Justify opinions and conclusions. | **Key Words:**  Gravitational potential  Gravimetry  Newton’s Law of Gravitation  Radial fields  Ellipse  Perihelion  Eccentricity  Kepler’s Laws  Orbit  Geostationary  Escape velocity |
| **What will we learn?**  Gravitational fields being due to mass.  Modelling spherical objects as a point mass at its centre  Calculation of gravitational field strength and gravitational potential at a point and at infinity.  Application of Newton’s law of gravitation  Application of Keppler’s Laws  Geostationary satellites  Calculating escape velocities  **Misconceptions in this topic**   * Confusion between gravitational potential and gravitational potential energy * Giving positive values for gravitational potential | |
| **What opportunities are there for wider study?**  Careers - 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 | |