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| **What will we be learning?**  Airplane outline  **Pressure** | **Why this? Why now?**  Previous Learning  Key stage 2 Science  Year 7 Course - Speed, Gravity, Current, Voltage and Resistance, Energy transfers and Energy costs  Year 8 Course – Light, Sound, Contact forces  Future Learning  Year 8 Course – Magnetism, Wave effects, electromagnetism  Enquiry Processes  Identify variables, Collect data, Present data, Analyse Patterns, Draw conclusions, Justify opinions and conclusions | **Key Words:**  Pressure  Force  Particles  Newton  Pascal  Weight  Depth  Unequal  Upthrust  Hydraulics |
| **What will we learn?**  How pressure changing with depth can explain underwater effects such as submarines squashing or ears hurting or popping  How to explain observations of fluids in terms of unequal pressure such as water leaking from a bottle  Why objects float/sink depending upon their weight and the upthrust acting on them  Why the effects of forces are different because of the area over which they apply such as skis  The reasons for objects that using high and low pressure  The reasons for objects being scratched, dented or the surface broken  How to carry out calculations involving pressure, force and area in hydraulics, where the effects of applied forces are increased e.g. a car jack  Given unfamiliar situations, use the formula to calculate the pressure exerted by a fluid  How to apply the pressure formula to different situations  How to correctly apply the pressure formula Pressure = Force/Area  **Misconceptions in this topic**  Expansion of matter is due to the expansion of particles rather than the increased spacing  Gases are not matter because most are invisible  Objects float in water because they are lighter than water  Objects sink in water because they are heavier than water  Fluid pressure only acts downward  Pressure varying within a liquid (hydraulics)  Pressure and force are the same  Pressure does not vary with depth in a fluid | |
| **What opportunities are there for wider study?**  Careers – Geophysics, Physiotherapy, Aviation, Construction, Civil engineering, Architecture, Surveying, Dentistry, Renewable energy science, Sound technology  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** | |