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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 costsYear 8 Course – Light, Sound, Contact forcesFuture Learning Year 8 Course – Magnetism, Wave effects, electromagnetismEnquiry ProcessesIdentify variables, Collect data, Present data, Analyse Patterns, Draw conclusions, Justify opinions and conclusions | **Key Words:**PressureForceParticlesNewtonPascalWeightDepthUnequalUpthrustHydraulics |
| **What will we learn?**How pressure changing with depth can explain underwater effects such as submarines squashing or ears hurting or poppingHow to explain observations of fluids in terms of unequal pressure such as water leaking from a bottleWhy objects float/sink depending upon their weight and the upthrust acting on themWhy the effects of forces are different because of the area over which they apply such as skisThe reasons for objects that using high and low pressureThe reasons for objects being scratched, dented or the surface brokenHow to carry out calculations involving pressure, force and area in hydraulics, where the effects of applied forces are increased e.g. a car jackGiven unfamiliar situations, use the formula to calculate the pressure exerted by a fluidHow to apply the pressure formula to different situationsHow 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 spacingGases are not matter because most are invisible Objects float in water because they are lighter than waterObjects sink in water because they are heavier than waterFluid pressure only acts downwardPressure varying within a liquid (hydraulics)Pressure and force are the samePressure 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 technologySTE(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** |