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| **What will we be learning?**  Tennis racket and ball with solid fill  **Contact Forces** | **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  Future Learning  Year 8 Course – Pressure, Magnetism, Wave effects, electromagnetism  Enquiry Processes  Identify variables, Collect data, Present data, Analyse Patterns, Draw conclusions, Justify opinions and conclusions | **Key Words:**  Friction  Drag  Levers  Deformation  Proportion/Proportionality  Equilibrium  Directly proportional  Relationship  Extension  Force  Newton  Moment  Compression  Extension |
| **What will we learn?**  Evaluate how well sports or vehicle technology reduces frictional or drag forces.  Explain whether an object in an unfamiliar situation is in equilibrium  Describe how materials behave as they are stretched or squashed  Identify the motion of an object due to the forces acting on it  Explain how turning forces are used in levers  Calculate the turning effect on an object  Identify situations where there are turning forces  Draw force diagrams including size and direction  Compare the behaviour of different materials in deformation using the idea of proportionality  Describe whether a relationship is directly proportional  Describe what happens to the length of a spring when the force on it changes  Identify the relationship between force and extension  **Misconceptions in this topic**  Levers are balanced/unbalanced due to the weights being the same each side, rather than moments  If an object is at rest, no forces are acting on the object.  Force is a property of an object. An object has force, and when it runs out of force it stops moving.  If a body is not moving, there is no force acting upon it. | |
| **What opportunities are there for wider study?**  Careers – Geophysics, Physiotherapy, Aviation, Medical physics, Construction, Civil engineering, Architecture, Surveying, Dentistry, Renewable energy science  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** | |