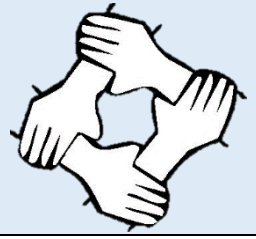
Year 3 – Term 3

What does it mean to be strong?

DESIGN TECHNOLOGY



| National Curriculum Links: |
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| Select from and use a wider range of tools and equipment to perform practical tasks (for example, cutting, shaping, joining and finishing) accurately.<br>Investigate and analyse a range of existing products.<br>Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work.<br>Understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages]. |

| Essential Prior Learning: |
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| Children should have had the opportunity to explore and use mechanisms such as flaps, sliders and levers in familiar contexts, such as books and cards with moving parts.<br>They should have had experience of basic cutting, joining and finishing techniques with paper and card. |

| Progression in Skill: |
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| Explain how particular parts of their products work.<br>Measure, mark out and shape material and components with increasing accuracy.<br>Assemble, join and combine materials and components with increasing accuracy.<br>Investigate and analyse how well products work, achieve their purpose and meet user needs and wants.<br>Consider the views of others, including intended users, to improve their work.<br>Mechanical systems have input, process and output.<br>Use learning from Science and Mathematics to help design and make products that work.<br>Learn how mechanical systems such as levers and linkages or pneumatic systems create movement. |

| Long-term Memory Knowledge: |
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| Children will be able to:<br>Improve the accuracy of cutting, joining and finishing.<br>Know that levers work by a push and a pull.<br>Know how to strengthen a structure by using stronger materials and/or folding, using triangular structures, etc.<br>Know that split pins are a way of joining materials allowing movement.<br>Make suggestions on how to improve a design. |

| Key Vocabulary | |
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| **mechanism** | a device used to create movement in a product |
| **system** | systems have an input, process and an output; in a lever and linkage mechanism, the 'input movement' is where the user pushes or pulls a card strip; the 'output movement' is where one or more parts of the picture move. |
| **lever** | a rigid bar which moves around a pivot; levers are used in many everyday products |
| **linkage** | the card strips joining one or more levers to produce the type of movement required; 'linkage' is also used to describe the lever and linkage mechanism as a whole |
| **slot** | the hole through which a lever is placed so that part of a picture moves |
| **guide or bridge** | a short card strip used to keep lever and linkage mechanisms in place and control movement |
| **loose pivot** | a paper fastener that joins card strips together |
| **fixed pivot** | a paper fastener that joins card strips to the backing card |

| Progression in Resources: |
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| Play sets with gears and cogs<br>Building KNEX models using pulleys, gears and cogs<br>Creating own products using mechanical systems |

| Relevance | |
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| **Now** | Develop a way to make products with moving parts, applying this to their own creations. |
| **Future** | Have a greater understanding of mechanisms and are more able to fix things when broken rather than needing to replace. |
| **Aspiration** | Children may be inspired to pursue a career in Design Technology or Science; they enjoy model making and building as a hobby. |