



Subject- Design and Technology



Threshold Concepts and Milestones

Threshold Concept		Year 6	Content
<p>Master practical skills This concept involves developing the skills needed to make high quality products (we have highlighted a range of skills but they may be added to or changed</p>	<p>Mechanics</p>	<ul style="list-style-type: none"> • Use scientific knowledge of the transference of forces to choose appropriate mechanisms for a product (such as levers, winding mechanisms, pulleys and gears). • Convert rotary motion to linear using cams. • Use innovative combinations of electronics (or computing) and mechanics in product designs. 	<ul style="list-style-type: none"> • Chn to explore creating each of the different kind of machines in appropriate contexts- building on from the Physics curriculum. • Pulleys • Levers • Gears • CAMS • K'nex - water wheels • Lego - crocodiles (electronic mechanisms programming) • Children to evaluate each machine and think about its uses in the 'real world'.

<p>Design, make, evaluate and improve This concept involves developing the process of design thinking and seeing design as a process.</p>		<ul style="list-style-type: none"> • Design with the user in mind, motivated by the service a product will offer (rather than simply for profit). • Make products through stages of prototypes, making continual refinements. • Ensure products have a high quality finish, using art skills where appropriate. • Use prototypes, cross-sectional diagrams and computer aided designs to represent designs. 	<p>Problem: People with mobility issues struggle to perform everyday tasks. Design brief: Make a machine that will make life easier for people with mobility issues.</p> <ul style="list-style-type: none"> • Chn think of a range of problems that could affect people with mobility issues • Create designs that would answer the problem (allow chn to be as inventive as possible) • Children build prototypes using appropriate materials • Review their prototypes and make adjustments on their plans • Collaborate with others to compare ideas • Build a final prototype • Test and evaluate
<p>Take inspiration from design throughout history This concept involves appreciating the design process that has influenced the products we use in everyday life.</p>		<ul style="list-style-type: none"> • Combine elements of design from a range of inspirational designers throughout history, giving reasons for choices. • Create innovative designs that improve upon existing products. 	<ul style="list-style-type: none"> • Look at the evolution of products through time e.g. Hoover, mobile phones, stair lift, dumb waiter, lazy susan • Look at a variety of designers • Annotate how they improved life for the users

		<ul style="list-style-type: none">• Evaluate the design of products so as to suggest improvements to the user experience.	
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