

## TechCard Build-it Kit

Curriculum	Topics & Knowledge	The view from TechCard
<b>Design &amp; Technology</b> KS1	Build structures, exploring how they can be made stronger stiffer and more stable.	This is the focus of the Build-it Kit. Pupils investigate why different materials are useful for different tasks and explore how materials are shaped to make them more useful. Pupils learn how to build strong structures and how structures are designed to deal with the forces that act on them.
	Design purposeful, functional appealing products.	As a design and make resource, TechCard combines well with a wide range of materials and its accurate perforated grid makes models with working mechanisms achievable.
KS2	Use a range of tools and equipment to perform practical tasks like cutting, shaping, joining and finishing.	Used on its own or combined with other materials using TechCard develops these important skills.
	Apply understanding of how to strengthen, stiffen and reinforce more complex structures.	TechCard structures are built and perform like those in the real world unlike other brick or strut based systems. The principles learned are applicable to real world structures.

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<b>Science</b> KS1	Develop scientific knowledge and conceptual understanding through specific disciplines including physics.	Through constructing successful structures with TechCard, pupils are introduced to key concepts and phenomenon such as gravity, materials in tension and compression, how functional shapes like arches and triangulation work.
	To enable pupils to experience and observe phenomenon including in the humanly constructed world around them.	TechCard gives pupils a hands-on opportunity to form structures that behave like those in the real world. They learn how to construct successful structures by understanding the forces acting on them in the same way as they do in the real world.
KS2	Working Scientifically.	Working scientifically is a key element of the curriculum. Working with TechCard, following instructions, working methodically and then, through the 'Follow' the Force' section, observing, testing and measuring are all important aspects of scientific method.
	Forces Understand the forces of gravity, air resistance and friction and that mechanisms can change the forces acting on them.	Building and operating TechCard models gives pupils the opportunity to investigate these important phenomenon in an engaging hands-on way. While pupils encounter all of these concepts working with the TechCard Build-it Kit, the kit is particularly focussed on the force of gravity and how all structures, real or model, need to deal with gravity to succeed.

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<b>Maths</b> KS1	Measurement Compare, describe, measure and record distance, weight and time.	Building TechCard models develops measuring skills and an understanding of measurement. The TechCard Build-it Kit focusses on how structures deal with gravity. Exploring gravity through practical activities gives pupils a hands-on understanding of the fundamental force that gives all objects their 'weight'.
	Recognise two and three dimensional shapes.	Following the illustrated instructions pupils are introduced to the relationship between drawn two dimensional shapes and their drawn three dimensional representations. Furthermore, they see the relationship between these and the real three dimensional shapes they represent. This knowledge is extended as pupils form the rigid three dimensional shapes from the two dimensional elements supplied in the kit.
	Describe position, direction and movement.	The 'Follow the Force' section involves pupils in investigating and describing each model in relation to the position, direction and movement of various key elements.