

**St. Bridget’s C of E Primary Design and Technology Progression of Skills and Knowledge Overview**

*Inspiring, nurturing and educating our children to serve God by reaching their full potential, serving our local community and by looking after our environment as global citizens of today and tomorrow.*

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| **Year Group** | | **Structures Year 1** | **Structures Year 3** | **Structures Year 5** |
|  | | Baby Bear’s Chair/Throne | Pavilions | Playgrounds |
| Skills | Design | Generating and communicating ideas using sketching and modelling.  Learning about different types of structures, found in the natural world and in  everyday objects. | Designing a stable pavilion structure that is aesthetically pleasing and selecting  materials to create a desired effect.  Building frame structures designed to support weight. | Designing a playground featuring a variety of different structures, giving careful consideration to how the structures will be used, considering effective and ineffective designs |
| Make | Making a structure according to design criteria.  Creating joints and structures from paper/card and tape.  Building a strong and stiff structure by folding paper. | Creating a range of different shaped frame structures.  Making a variety of free standing frame structures of different shapes and sizes.  Selecting appropriate materials to build a strong structure and cladding.  Reinforcing corners to strengthen a structure.  Creating a design in accordance with a plan.  Learning to create different textural effects with materials. | Building a range of play apparatus structures drawing upon new and prior knowledge of structures.  Measuring, marking and cutting wood to create a range of structures.  Using a range of materials to reinforce and add decoration to structures. |
| Evaluate | Exploring the features of structures.  Comparing the stability of different shapes.  Testing the strength of own structures.  Identifying the weakest part of a structure.  Evaluating the strength, stiffness and stability of own structure. | Evaluating structures made by the class.  Describing what characteristics of a design and construction made it the most  effective.  Considering effective and ineffective designs. | Improving a design plan based on peer evaluation.  Testing and adapting a design to improve it as it is developed.  Identifying what makes a successful structure. |
| Knowledge | Technical | To know that shapes and structures with wide, flat bases or legs are the most stable.  To understand that the shape of a structure affects its strength.  To know that materials can be manipulated to improve strength and stiffness.  To know that a structure is something which has been formed or made from parts.  To know that a ‘stable’ structure is one which is firmly fixed and unlikely to change or move.  To know that a ‘strong’ structure is one which does not break easily.  To know that a ‘stiff’ structure or material is one which does not bend easily | To understand what a frame structure is.  To know that a ‘free-standing’ structure is one which can stand on its own. | To know that structures can be strengthened by manipulating materials and shapes. |
| Additional | To know that natural structures are those found in nature.  To know that man-made structures are those made by people. | To know that a pavilion is a a decorative building or structure for leisure activities.  To know that cladding can be applied to structures for different effects.  To know that aesthetics are how a product looks.  To know that a product’s function means its purpose.  To understand that the target audience means the person or group of people a product is designed for.  To know that architects consider light, shadow and patterns when designing. | To understand what a 'footprint plan' is.  To understand that in the real world, design , can impact users in positive and negative ways.  To know that a prototype is a cheap model to test a design idea. |