

**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 ineveryday objects. | Designing a stable pavilion structure that is aesthetically pleasing and selectingmaterials 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 mosteffective.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. |