**Burstow Primary School Design & Technology: Skills Progression**

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| **Skill** | **Year 1** | **Year 2** | **Year 3** | **Year 4** | **Year 5** | **Year 6** |
| **Research & design** | Create simple designs for a product.Use pictures and words to describe what they wants to do. | Design purposeful, functional, appealing products for themselves and other users based on design criteria.Generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology. | Use knowledge of existing products to design their own functional product.Create designs using annotated sketches, cross-sectional diagrams and simple computer programmes. | Use knowledge of existing products to design a functional and appealing product for a particular purpose and audience.Create designs using exploded diagrams. | Use their research into existing products and they market research to inform the design of they own innovative product.Create prototypes to show their ideas. | Use research they have done into famous designers and inventors to inform the design of they own innovative products.Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design. |
| **Create** |  |
| **Construction** | Use a range of simple tools to cut, join and combine materials and components safely.Select from and use a range of tools and equipment to perform practical tasks e.g. cutting, shaping, joining and finishing.Build structures, exploring how they can be made stronger, stiffer and more stable.**Homes****Flying kites** | Safely measure, mark out, cut and shape materials and components using a range of toolsChoose appropriate tools, equipment, techniques and materials from a wide range.Investigate different techniques for stiffening a variety of materials and explore different methods of enabling structures to remain stable.**Vehicles****Decorations****Wacky Windmills**  | Safely measure, mark out, cut, assemble and join with some accuracy.Make suitable choices from a wider range of tools and unfamiliar materials and plan out the main stages of using them.Investigate and analyse existing products and those they have made, considering a wide range of factors.**Moving Monsters** **Photo frames****Packaging** | Use techniques which require more accuracy to cut, shape, join and finish they work e.g. Cutting internal shapes, slots in frameworks.Use their knowledge of techniques and the functional and aesthetic qualities of a wide range of materials to plan how to use them.Apply techniques they have learnt to strengthen structures and explore their own ideas.**Alarms** | Make careful and precise measurements so that joins, holes and openings are in exactly the right place.Produce step by step plans to guide their making, demonstrating that they can apply their knowledge of different materials, tools and techniques.Build more complex 3D structures and apply their knowledge of strengthening techniques to make them stronger or more stable.**Moving Toys** | Apply their knowledge of materials and techniques to refine and rework they product to improve its functional properties and aesthetic qualities.Use technical knowledge accurate skills to problem solve during the making process.Use a wide range of methods to strengthen, stiffen and reinforce complex structures and can use them accurately and appropriately.**Fairgrounds****Building bridges** |
| **Textiles** |  | Use pattern piecesCutting skillsThread a needleTie a knotTying off knotRunning stitchOversew stitchSew a buttonSew an applique**Puppets** | Cutting skillsThread a needleTie a knotTying off knotRunning stitchOversew stitchSew ribbon/laceSew an applique**Pencil cases** | Create pattern piecesCutting skillsThread a needleTie a knotTying off knotRunning stitchOversew stitchBackstitchHemSew a button/snap fastenersSew an applique**Money Containers** | Use pattern piecesCutting skillsTie a knotTying off knotRunning stitchOversew stitchBackstitchBlanket stitchHemSew buttons/snap fastenersSew an applique**Fashion & Textiles (bag)** | Create pattern piecesTie a knotTying off knotBackstitchBlanket stitchLadder stitchHemSew buttons/snap fasteners/beads**Funky Furnishings** |
| **Food Technology**  | Talk about what they eat at home and begin to discuss what healthy foods are.Say where some food comes from and give examples of food that is grown.Use simple tools with help to prepare food safely.**Eating fruit & vegetables** | Understand the need for a variety of food in a diet.Understand that all food has to be farmed, grown or caught.Use a wider range of cookery techniques to prepare food safely.**Pizza** | Talk about the different food groups and name food from each group.Understand that food has to be grown, farmed or caught in Europe and the wider world.Use a wider variety of ingredients and techniques to prepare and combine ingredients safely.**Sandwiches** |  | Understand what makes a healthy and balanced diet, and that different foods and drinks provide different substances the body needs to be healthy and active.Understand the main food groups and the different nutrients that are important for health.Read and follow recipes which involve several processes, skills and techniques.Select appropriate ingredients and use a wide range of techniques to combine them.**Biscuits****Bread** |  |
| **Circuits** |  |  |  | Understand and use electrical systems in products.**Alarms / Lights** |  | Understand how to use more complex mechanical and electrical systems.**Fairgrounds** |
| **Mechanisms** | Explore and use mechanisms e.g. levers, sliders and wheels in their products.**Moving pictures** | Explore and use mechanisms e.g. wheels and axles, in their products.**Vehicles****Wacky Windmills** | Understand how mechanical systems such as levers and linkages or pneumatic systems create movement.**Moving Monsters** | Understand how and use mechanical systems such as levers, rotation and linkages to create movement.**Storybooks** | Use mechanical systems such as cams, rotation and linkages to create movement.**Moving Toys** | Use mechanical systems such as pulleys, rotation and linkages to create movement.**Fairgrounds** |
| **Evaluation** | Ask/answer simple questions about existing products and those that they have made.Thumbs up/downEmoji colouring | Evaluate and assess existing products and those that they have made using a design criteria.Thumbs up/downEmoji colouringSentence about what they would change. | Investigate and analyse existing products and those they have made, considering a wide range of factors.Question sheet  | Consider how existing products and their own finished products might be improved and how well they meet the needs of the intended user.Detailed question sheet regarding what went well, and what needs improvement. | Make detailed evaluations about existing products and their own considering the views of others to improve their work.Detailed question sheet regarding what went well, and what needs improvement. | Use their knowledge of famous designs to further explain the effectiveness of existing products and products they have made.Detailed question sheet regarding what went well, and what needs improvement. |