

**St. Mary’s Church of England Primary School**

**Design and Technology Overview**

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| AUTUMN | | | | | | | |
| Learning Journey | | | | | | | |
| EYFS | Class 1  Fire Engines | Class 2  Fabric Bunting | Class 3  Christmas Decorations | Class 4  Anderson Shelters/great British bake off | | Class 5  Fairground Rides | Class 6  Christmas Wreath |
|  | Need Knowledge Organiser | Explore and evaluate a range of existing products in the context of evaluating bunting designs.  Generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology in the context of using a basic graphics program to design a bunting flag.  Select from and use a range of tools and equipment to perform practical tasks (for example, cutting, shaping and finishing) in the context of cutting a template and using it to shape a piece of fabric.  Select from and use a range of tools and equipment to perform practical tasks (for example joining) in the context of using running stitch to join fabric.  Select from and use a wide range of materials and components, including textiles, according to their characteristics in the context of selecting materials to join to fabric bunting.  Select from and use a wide range of tools and equipment to perform practical tasks (for example joining and finishing) in the context of joining fabrics using different techniques.  Evaluate their ideas and products against a design criteria in the context of evaluating the bunting flag. | Need Knowledge Organiser | Term 1 | Term 2 | LQ: Can I explore real fairground rides and understand different rotating parts?  LQ: Can I investigate ways of using electrical motors to create rotating parts?  LQ: Can I find different ways of making a framework for a fairground ride?  LQ: Can I design a fairground with a rotating part?  LQ: Can I make a fairground ride following a design?  Can I evaluate a finished product? | Market Research needed?  LQ: Can I design a Christmas wreath?  LQ: Can I complete a slip stitch?  LQ: Can I evaluate my Wreath? |
| LQ: What are shelters and how are they used?  LQ: Can you compare different materials?  LQ: Can you plan an Anderson Shelter design?  LQ: Can you make an Anderson Shelter?  LQ: Can you evaluate your Anderson Shelter design? | LQ: What do you know about baking?  LQ: Can you evaluate cakes?  LQ: can you create a design criteria?  LQ: Can you design a selection of cakes?  LQ: Can you create a final design?  LQ: Can you make an evaluate your cake? |
| Vocabulary Progression | | | | | | | |
|  |  | Bunting  Fabric  Evaluate  Product  Design  Textile  Stitch  Material  Template  join |  | Modelling  Strengthening  Reinforcing  Stable  Strength  Material  Rigid  Water resistance  Support  Beam  bracket | Batch  Beat  Blend  Boil  Buttercream  Coat  Combine  Consistency  Drizzle  Fold  Glaze  Grease  Icing  Pipe  Preheat  sieve  sprinkle | Motor  Parallel circuit  Series circuit  Brittle  Components list  Engineering  Function  Dowling | Critera  Slip stitch  Function  User  Wadding  assemble |
| Skill covered (taken from the DT skills progression document) | | | | | | | |
|  |  |  |  |  |  | **Design:**   * describe the purpose of their products * indicate the design features of their products that will appeal to intended users * explain how particular parts of their products work * develop a simple design specification to guide their thinking * share and clarify ideas through discussion * use annotated sketches, cross-sectional drawings and exploded diagrams to develop and communicate their ideas * Generate realistic ideas focusing on the needs of the user.   **Make:**   * Select components suitable for the task * Explain their choice of materials and components according to functional properties and aesthetic qualities * Use a wider range of materials and components than KS1, including construction materials, mechanical components and electrical components. * Accurately measure, mark out, cut and shape materials and components. * Accurately assemble, join and combine materials and components. * Demonstrate resourcefulness when tackling practical problems   **Evaluate**:   * Identify the strengths and areas for development in their ideas and products * Critically evaluate the quality of the design * Evaluate their ideas and products against their original design specification * How well products have been designed and made * What methods of construction have been used * How innovative products are * How sustainable the materials in products are.   **Technical skills:**   * How to use learning from science and maths to help design and make products that work. * that materials can be combined and mixed to create more useful characteristics * that mechanical and electrical systems have an input, process and an output * how more complex electrical circuits and components can be used to create functional products. |  |

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| Spring | | | | | | |
| Learning Journey | | | | | | |
| EYFS | Class 1  Glove Puppets | Class 2  Chocolate boxes | Class 3  N/A | Class 4  Torches | Class 5  Burgers | Class 6  N/A |
|  | LQ: Do I know that there are different types of puppets? Do I know that puppets are made up of different parts? Can I make to make simple drawings and label parts?  LQ? Can I work with fabric to create a finger puppet?  LQ: Can I use basic sewing techniques? Can I to use a template to mark out identical pieces of fabric? Can I use simple vocabulary associated with the use of textiles?  LQ: Do I have ideas for my own designs can be developed by looking at a selection of puppets? Can I identify simple design criteria and then evaluate against design criteria?  LQ: Can I follow a design to make a puppet?  LQ: Can I evaluate my puppet? | LQ: Can I evaluate existing chocolate bars - taste, texture, flavor?  LQ: Can I evaluate and select different ingredients for a chocolate bar?  LQ: Can I design my own chocolate bar recipe for a target group – taste, shape, size, flavor?  LQ: Can I evaluate existing chocolate bar packaging – materials, colours, pictures?  LQ: Can I create design ideas for my chocolate bar packaging?  LQ: Can I make packaging for a chocolate bar, following my chosen design?  LQ: Can I make a chocolate bar, using my chosen recipe?  LQ: Can I evaluate my final product, identifying what went well and what could be improved? | LQ: Can you identify the features of torches and investigate their uses?  LQ: Can you create a simple circuit and investigate different types of stitches?  LQ: Can you investigate different castings for you torch?  LQ: Can you design a torch for a particular purpose?  LQ: can you make a torch?  LQ: Can you evaluate a finished project? | LQ: Can I explore different types of burgers and their nutrition facts?  LQ: Can I make a burger patties?  LQ: Can I explore sauces and side dishes for burgers?  LQ: Can I explore burger buns and their suitability?  LQ: Are you able to plan and design a burger to make considering ingredients and flavors that may complement each other?  LQ: Can you make a burger and evaluate the process? |
| Vocabulary Progression | | | | | | |
|  | Puppet  Finger Puppet  Glove Puppet  Material  Running Stitch  Design  Evaluate | Design Brief  Appealing  Packaging  Net  Assemble  Recipe  Ingredients  mould |  | Torch  Investigate  Evaluating  Designing  Making  Circuit  Switch  Cut  casing | Annotated diagram  Customer survey  Risk assessment  Taste test  Final design  Vegetarian  Gluten free  Dairy free  Vegan  Dice  Grill  Hygienic  tongs |  |
| Skills covered (taken from the DT skills progression document) | | | | | | |
|  |  |  |  |  | **Design:**   * carry out research, using surveys, interviews, questionnaires and web-based resources * identify the needs, wants, preferences and values of particular individuals and groups * make design decisions that take account of the availability of resources   **Make:**   * explain their choice of tools and equipment in relation to the skills and techniques they will be using. * Produce appropriate lists of tools, equipment and materials that they need. * Formulate step-by-step plans as a guide to making. * Follow procedures for safety and hygiene * Use techniques that involve a number of steps   **Evaluate:**   * identify the strengths and areas for development in their ideas and products * consider the views of others, including intended users, to improve their work * how well products work to achieve their purposes * how well products meet user needs and wants * how much products cost to make * about inventors, designers, engineers, chefs and manufacturers who have developed ground-breaking products   **Cooking and Nutrition:**   * that food is grown (such as tomatoes, wheat and potatoes), reared (such as pigs, chickens and cattle) and caught (such as fish) in the UK, Europe and the wider world * that seasons may affect the food available * how food is processed into ingredients that can be eaten or used in cooking * how to prepare and cook a variety of predominantly savoury dishes safely and hygienically including, where appropriate, the use of a heat source * how to use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking * that recipes can be adapted to change the appearance, taste, texture and aroma * that different food and drink contain different substances – nutrients, water and fibre – that are needed for health |  |

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| Summer | | | | | | | |
| Learning Journey | | | | | | | |
| EYFS | Class 1 | Class 2  Moving pictures | Class 3  Carnival characters/Spag Bol | | Class 4  N/A | Class 5  Cam Toys | Class 6  Bird Shelters |
|  | New Topic (Cookery) | LQ: Can I explore and evaluate an existing product?  LQ: Can I use a mechanism in my product?  LQ: Can I make a lever and use it in my product?  LQ: Can I make a wheel mechanism and use it in my product?  LQ: Can I design a working product thinking about who it is for and what it needs?  LQ: Can I make decisions about my product design and use an annotated sketch to show them?  LQ: Can I use mechanisms to make a product?  LQ: Can I evaluate my product against design criteria? | Term 5 | Term 6 | LQ: Can I research about different animals to inform my design?  LQ: Can I explain how simple cam mechanisms work?  LQ: Can I make a simple mechanism to help me understand cams selecting materials according to their functional properties?  LQ: Can I use research and develop design criteria to inform my design?  LQ: can I build a framework accurately using a wider range of tools and equipment?  LQ: Can I evaluate my product? | New Topic (bird shelters) |
| LQ: Can I investigate different mechanical systems?  LQ: Can I make mechanical systems which use levers and linkages?  LQ: Can I use sketches to develop and communicate ideas?  LQ: Can I use prototypes to develop my ideas?  LQ: Can I select materials and use different techniques to create a moving carnival mask?  LQ: Can I evaluate my moving carnival mask? | LQ: Can I research the ingredients in a spaghetti Bolognese?  LQ: Can I design my own spaghetti Bolognese?  LQ: Can I make my own spaghetti Bolognese?    LQ: Can I evaluate my own and others food?  LQ: Can I write my own recipe and instructions for a spaghetti Bolognese? |
|  | Vocabulary Progression | | | | | | |
|  |  | Mechanism  Assemble  Lever  Pivot  Slider  Split pin  Rotary  annotate | Lever  Linkage  Design criteria  Mechanism | Healthy  Balanced diet  Vegetarian  Utensils  Al Dente  Market research  Product analysis  Taste test  Simmer |  | Research  Design brief  Cam  Follower  Rotary  Linear  Convert  Motion  Function  Aesthetics  Construction  Economics |  |
|  | Skills covered (take from the DT skills progression document) | | | | | | |
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