

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

**Design and Technology Overview**

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| AUTUMN |
| Learning Journey |
| EYFS | Class 1Fire Engines | Class 2Fabric Bunting | Class 3Christmas Decorations | Class 4Anderson Shelters/great British bake off | Class 5Fairground Rides | Class 6Christmas 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 |
|  |  | BuntingFabricEvaluateProductDesignTextileStitchMaterialTemplatejoin |  | ModellingStrengtheningReinforcingStableStrengthMaterialRigidWater resistanceSupportBeam bracket | BatchBeatBlendBoilButtercreamCoatCombineConsistencyDrizzleFoldGlazeGreaseIcingPipePreheatsievesprinkle | MotorParallel circuitSeries circuitBrittleComponents listEngineeringFunctionDowling  | CriteraSlip stitchFunctionUserWaddingassemble |
| 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 1Glove Puppets | Class 2Chocolate boxes | Class 3N/A | Class 4Torches | Class 5Burgers | Class 6N/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 |
|  | PuppetFinger PuppetGlove PuppetMaterialRunning StitchDesignEvaluate | Design BriefAppealingPackagingNetAssembleRecipeIngredientsmould |  | TorchInvestigateEvaluatingDesigningMakingCircuitSwitchCutcasing | Annotated diagramCustomer surveyRisk assessmentTaste testFinal designVegetarian Gluten freeDairy freeVegan DiceGrillHygienictongs |  |
| 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 2Moving pictures | Class 3Carnival characters/Spag Bol | Class 4N/A | Class 5Cam Toys | Class 6Bird 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 |
|  |  | MechanismAssembleLeverPivotSliderSplit pinRotaryannotate | Lever LinkageDesign criteriaMechanism  | Healthy Balanced dietVegetarianUtensilsAl DenteMarket researchProduct analysisTaste testSimmer |  | Research Design briefCamFollowerRotaryLinearConvertMotionFunctionAestheticsConstructionEconomics |  |
|  | Skills covered (take from the DT skills progression document) |
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