Design & Technology – Year 5 - Autumn Term – Design & Create a Moving Toy

Mechanical/Electronic

National Curriculum	Week	NC - Coverage	Skills Taught	Activity Outline
Key stage 2 Pupils should be taught to: Design Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design Make Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately Select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities Evaluate Investigate and analyse a range of existing products Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work Understand how key events and individuals in design and technology have helped shape the world	**1**	Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design	Generate ideas, considering the purposes for which they are designing	Ruth Handler – Created Barbie Doll Discuss the importance of alarm systems Identify Intended User & Purpose Identify Design Criteria
	2-3	Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design Understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors]	Evaluate products and identify criteria that can be used for their own designs	Look at different dolls/toys Research Different toys/dolls – What functions do they have? How could we incorporate different functions?

Technical knowledge Apply their understanding of how to strengthen, stiffen and reinforce more complex structures Understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages] Understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors] Apply their understanding of computing to program, monitor and control their products Cooking Understand and apply the principles of a healthy and varied diet Prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques Understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed.				
	4	Understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages] Apply their understanding of how to strengthen, stiffen and reinforce more complex	Evaluate products and identify criteria that can be used for their own designs	Investigate Different Mechanical Systems How can we ensure the toy can move?
	5-6	Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design Understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors]	Make labelled drawings from different views showing specific features Develop a clear idea of what has to be done, planning how to use materials, equipment and processes, and suggesting alternative methods	Design Moving Toy Exploded Diagram Computer Design – TinkerCAD
	7-9	Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately Select from and use a wider range of materials and components, including	Select appropriate tools and techniques for making their product Join and combine materials and components accurately in temporary and permanent way	Create Moving Toy Incorporate different elements Ensure both aesthetical and functional elements are covered.

		construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities Understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages]		
	10-11	Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work	Evaluate their work both during and at the end of the assignment Evaluate their products carrying out appropriate tests	Evaluate Completed Product Identify Aesthetical Elements & Functional Elements

Design & Technology – Year 5 – Spring Term –Design & Create their Own Pull Cord Bag

Sewing

National Curriculum	Week	NC - Coverage	Skills Taught	Activity Outline
Key stage 2 Pupils should be taught to: Design Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design Make Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately Select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities Evaluate Investigate and analyse a range of existing products Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work	**1**	Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design Investigate and analyse a range of existing products	Generate ideas, considering the purposes for which they are designing	Identify Intended User & Purpose Identify Design Criteria Research Different Bag Designs – Evaluation on Each Bag
	2-3	Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design	Develop key sewing skills Develop knowledge of different stitches	Practise Key Sewing Skills Basting Stitch Overlay Stitch Pull Cord String Attachment

Understand how key events and individuals in design and technology have helped shape the world Technical knowledge Apply their understanding of how to strengthen, stiffen and reinforce more complex structures Understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages] Understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors] Apply their understanding of computing to program, monitor and control their products Cooking Understand and apply the principles of a healthy and varied diet Prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques Understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed.				
	4-5	Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design	Make labelled drawings from different views showing specific features Develop a clear idea of what has to be done, planning how to use materials, equipment and processes, and suggesting alternative methods of making, if the first attempts fail	Design Treasure Bag Exploded Diagram Tools/Equipment List – Functional or Aesthetical
	6-8	Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately Select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities	Select appropriate tools and techniques for making their product Measure, mark out, cut and shape a range of materials, using appropriate tools, equipment and techniques Join and combine materials and components accurately in temporary and permanent ways Sew using a range of different stitches, weave and knit	Create Pull Cord Bag
	9	Investigate and analyse a range of existing products	Evaluate their work both during and at the end of the assignment	Evaluate Bag Self – Evaluation

		Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work		
	10	Investigate and analyse a range of existing products Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work	Evaluate products and identify criteria that can be used for their own designs for next time	Peer Evaluation Questionnaire Feedback and Analysis

Design & Technology – Year 5 – Summer Term –Design & Create Burgers for Theme Parks

Cooking

National Curriculum	Week	NC - Coverage	Skills Taught	Activity Outline
Key stage 2 Pupils should be taught to: Design Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design Make Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately Select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities Evaluate Investigate and analyse a range of existing products	**1**	Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design	Generate ideas, considering the purposes for which they are designing Make labelled drawings from different views showing specific features Develop a clear idea of what has to be done, planning how to use materials, equipment and processes, and suggesting alternative methods of making, if the first attempts fail	Research Different Theme Park Foods – What Makes them Effective? Easily Accessible, Not Messy, Simple Design Identify Intended User & Purpose Identify Design Criteria Identify Food Available – Discuss Seasonality
	2-3	Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design	Generate ideas, considering the purposes for which they are designing Make labelled drawings from different views showing specific features Develop a clear idea of what has to be done, planning how to use materials, equipment and processes, and suggesting alternative methods of making, if the first attempts fail	Design Theme Park Burgers Exploded Diagram Step Process Annotated Designs

Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work Understand how key events and individuals in design and technology have helped shape the world Technical knowledge Apply their understanding of how to strengthen, stiffen and reinforce more complex structures Understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages] Understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors] Apply their understanding of computing to program, monitor and control their products Cooking Understand and apply the principles of a healthy and varied diet Prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques Understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed.	**4-6**	Understand and apply the principles of a healthy and varied diet Prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques Understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed. Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately Select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities	Select appropriate tools and techniques for making their product Understand food hygiene methods	Create Theme Park Burger Teacher to Model Key Cutting/Cooking Skills
	7	Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work	Evaluate their work both during and at the end of the assignment Evaluate their products carrying out appropriate tests	Evaluate Skill Development Food Sense Evaluation
