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| **Pendeen DT SCOPE, CONTENT and SEQUENCING Year B UPPER KEY STAGE 2** |
| Year Group: 5 / 6 | Half term: Autumn 1 | SCOPE: Spider web basket weaving | CONTENT / INTENT: Through a variety of creative and practical activities, pupils are taught the knowledge, understanding and skills needed to engage in an iterative process of designing and making a basket for storage purposes.  |
| **Prior Learning**design purposeful, functional, appealing products for themselves and other users based on design criteriaselect from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristicsexplore and evaluate a range of existing products evaluate their ideas and products against design criteria | Lesson 1 | Lesson 2 | Lesson 3 | Lesson 4 | Lesson 5 | Lesson 6 | Future Learning |
| **Knowledge:**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 | **Knowledge:**generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design | **Knowledge:**select from and use a wider range of tools and equipment to perform practical tasks | **Knowledge:**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 | **Knowledge:**apply their understanding of how to strengthen, stiffen and reinforce more complex structures | **Knowledge:**evaluate their ideas and products against their own design criteria and consider the views of others to improve their work | Children understand properties of materials in order to compare and make appropriate choices for future designs and productsChildren are able to reflect on the process to inform future choices of designing and makingChildren evaluate their learning, using photographs, sketches or the real items to refine their skills |
| **Success Criteria**Children use ICT to research types of storage to get inspiration for own productChildren research the skill of weavingChildren begin designing a basket | **Success Criteria** Children create sketches and diagrams to design their basketChildren create a prototype | **Success Criteria**Children explore the weaving technique and develop weaving skillChildren use and select appropriate tools | **Success Criteria**Children choose tools and resources appropriatelyChildren create their basket | **Success Criteria**Children are able to evaluate and refine their productChildren understand and explain how to reinforce and make the basket stronger | **Success Criteria**Children self reflect on their product and create an evaluation of their workChildren offer and listen to feedback from others |
| **Vocabulary:** research, design criteria, innovative, functional, appealing, fit for purpose, audience, model, sketch, cross-sectional and exploded diagrams, prototype, weaving, baskets, storage |
| **Pendeen DT SCOPE, CONTENT and SEQUENCING Year B UPPER KEY STAGE 2** |
| Year Group: 5/6 | Half term: Autumn 2 | SCOPE: Christmas baking | CONTENT / INTENT: Through a variety of creative and practical activities, pupils are taught the knowledge, understanding and skills needed to engage in an iterative process of designing and making a Christmas themed food item. |
| **Prior Learning**Use the basic principles of a healthy and varied diet to prepare dishes Understand where food comes from. | Lesson 1 | Lesson 2 | Lesson 3 | Lesson 4 | Lesson 5 | Lesson 6 | Future Learning |
| **Knowledge:**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 | **Knowledge:**generate, develop, model and communicate their ideas through discussion, annotated sketchesunderstand and apply the principles of a healthy and varied diet | **Knowledge:**prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques | **Knowledge:**select from and use a wider range of ingredients, according to their functional properties and aesthetic qualities | **Knowledge:**understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed | **Knowledge:**evaluate their ideas and products against their own design criteria and consider the views of others to improve their work | Children understand properties of materials in order to compare and make appropriate choices for future designs and productsChildren are able to reflect on the process to inform future choices of designing and makingChildren evaluate their learning, using photographs, sketches or the real items to refine their skills |
| **Success Criteria**Use ICT and recipe books to research various Christmas themed food products (e.g. a cake) using a balanced mixture of healthy ingredients | **Success Criteria** Communicate ideas for bakingDiscuss principles of a healthy balanced dietDesign a Christmas cake with inclusion of healthy ingredients | **Success Criteria**Prepare and bake a Christmas edible gift Develop baking skills | **Success Criteria**Children select appropriate ingredients for their recipe | **Success Criteria**Understand where their ingredients have come from and know which are sourced locallyTalk about which foods are seasonal | **Success Criteria**Taste and evaluate baked product based on the aesthetics, taste, texture and process of designing and making |
| **Vocabulary:** Yeast Dough Bran Seasonality Source Intolerance Allergy Varied Gluten NutritionResearch Specification Analyse Combine Construct Criteria Evaluate Requirements Functionality Diagram |
| **Pendeen DT SCOPE, CONTENT and SEQUENCING Year B UPPER KEY STAGE 2** |
| Year Group: Year 5/6 | Half term: Spring 1 | SCOPE: design and make a mode of transportation | CONTENT / INTENT: Through a variety of creative and practical activities, pupils are taught the knowledge, understanding and skills needed to engage in an iterative process of designing and making a mode of transportation. |
| **Prior Learning**Design purposeful, functional, appealing products for themselves and other users based on design criteriaselect from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing.Select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristicsexplore and use mechanisms [for example, levers, sliders, wheels and axles], in their products. | Lesson 1 | Lesson 2 | Lesson 3 | Lesson 4 | Lesson 5 | Lesson 6 | Future Learning |
| **Knowledge:**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 | **Knowledge:**generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design | **Knowledge:**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 | **Knowledge:**apply their understanding of computing to program, monitor and control their products | **Knowledge:**understand how key events and individuals in design and technology have helped shape the world | **Knowledge:**evaluate their ideas and products against their own design criteria and consider the views of others to improve their work | Children understand properties of materials in order to compare and make appropriate choices for future designs and productsChildren are able to reflect on the process to inform future choices of designing and makingChildren evaluate their learning, using photographs, sketches or the real items to refine their skills |
| **Success Criteria**Children use ICT to research making transportation from 3D printing or scrap materials including using mechanical systems | **Success Criteria** Children design their vehicle using annotated sketch | **Success Criteria**Children explore using mechanisms and electrical systems in their product | **Success Criteria**Children can use ICT to enhance their product use | **Success Criteria**Children talk about how key events and individuals around the world have changed design and technology of various types | **Success Criteria**Children test their product in a class raceChildren evaluate and self reflect |
| **Vocabulary:** Structure Frame Stiffen Reinforce Triangulation Stability Temporary Permeant SpecificationMechanical Pully Drive belt Gear Rotation Spindle Driver Follower Ratio Transmit Motor Exploded diagrams Cam Crank Housing Motion OscillatingResearch Specification Analyse Combine Construct Criteria Evaluate Requirements Functionality Diagram |

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| **Pendeen DT SCOPE, CONTENT and SEQUENCING Year B UPPER KEY STAGE 2** |
| Year Group: Year 5/6 | Half term: Spring 2 | SCOPE: healthy eating savoury makes | CONTENT / INTENT: Through a variety of creative and practical activities, pupils are taught the knowledge, understanding and skills needed to engage in an iterative process of designing and making a healthy alternative to Easter treats |
| **Prior Learning**Use the basic principles of a healthy and varied diet to prepare dishes Understand where food comes from. | Lesson 1 | Lesson 2 | Lesson 3 | Lesson 4 | Lesson 5 | Lesson 6 | Future Learning |
| **Knowledge:**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 | **Knowledge:**generate, develop, model and communicate their ideas through discussion, annotated sketchesunderstand and apply the principles of a healthy and varied diet | **Knowledge:**prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques | **Knowledge:**select from and use a wider range of ingredients, according to their functional properties and aesthetic qualities | **Knowledge:**understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed | **Knowledge:**evaluate their ideas and products against their own design criteria and consider the views of others to improve their work | Children understand properties of materials in order to compare and make appropriate choices for future designs and productsChildren are able to reflect on the process to inform future choices of designing and makingChildren evaluate their learning, using photographs, sketches or the real items to refine their skills |
| **Success Criteria**Children use ICT to research traditional Easter treatsChildren research healthy alternatives and explain how they will alter their recipe to be savoury and healthy | **Success Criteria**Children understand and apply principles of healthy diet in order to design a healthy alternative to an Easter treat | **Success Criteria**Children prepare and cook a savoury healthy food productChildren experience a range of cooking techniques | **Success Criteria** Children select and use ingredients appropriate to their recipeChildren explore decorating / plating with quality of aesthetic  | **Success Criteria**Children explain the seasonality of their foodChildren explain how their ingredients were grown, reared, caught or processedChildren are able to source food locally | **Success Criteria**Children taste and evaluate their own food produceChildren offer and listen to feedback |
| **Vocabulary:** Yeast Dough Bran Seasonality Source Intolerance Allergy Varied Gluten NutritionResearch Specification Analyse Combine Construct Criteria Evaluate Requirements Functionality Diagram |
| **Pendeen DT SCOPE, CONTENT and SEQUENCING Year B UPPER KEY STAGE 2** |
| Year Group: Year 5/6 | Half term: Summer 1 | SCOPE: design and make a decorative piece for a local festival | CONTENT / INTENT: Through a variety of creative and practical activities, pupils are taught the knowledge, understanding and skills needed to engage in an iterative process of designing and making a mode of transportation. |
| **Prior Learning**design purposeful, functional, appealing products for themselves and other users based on design criteriaselect from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristicsexplore and evaluate a range of existing products evaluate their ideas and products against design criteria | Lesson 1 | Lesson 2 | Lesson 3 | Lesson 4 | Lesson 5 | Lesson 6 | Future Learning |
| **Knowledge:**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 | **Knowledge:**generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design | **Knowledge:**select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately | **Knowledge:**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 | **Knowledge:**understand how key events and individuals in design and technology have helped shape the world | **Knowledge:**evaluate their ideas and products against their own design criteria and consider the views of others to improve their work | Children understand properties of materials in order to compare and make appropriate choices for future designs and productsChildren are able to reflect on the process to inform future choices of designing and makingChildren evaluate their learning, using photographs, sketches or the real items to refine their skills |
| **Success Criteria**Children research local festivals for inspiration Children design a 3D decorative piece to display at the festival | **Success Criteria** Children make a small prototype of what will be a large scale model | **Success Criteria**Children select and use appropriate resources and tools to make their 3D product | **Success Criteria**Children are able to construct with confidence and know and use joining techniques  | **Success Criteria**Children talk about key events and individuals who have shaped the design and technology world | **Success Criteria**Children evaluate their product against the design criteriaChildren offer and listen to feedback |
| **Vocabulary:** Electrica**l** Reed switch Toggle Light dependent Resistor Light emitting diode (LED) USB cable Insulator Conductor Control Programme Components Monitor Flow chart; Mechanical Pully Drive belt Gear Rotation Spindle Driver Follower Ratio Transmit Motor Exploded diagrams Cam Crank Housing Motion Oscillating; Research Specification Analyse Combine Construct Criteria Evaluate Requirements Functionality Diagram |
| **Pendeen DT SCOPE, CONTENT and SEQUENCING Year B UPPER KEY STAGE 2** |
| Year Group: Year 5/6 | Half term: Summer 2 | SCOPE: design and cook for guests | CONTENT / INTENT: Through a variety of creative and practical activities, pupils are taught the knowledge, understanding and skills needed to engage in an iterative process of designing and making both savoury and sweet food for their family |
| **Prior Learning**Use the basic principles of a healthy and varied diet to prepare dishes Understand where food comes from. | Lesson 1 | Lesson 2 | Lesson 3 | Lesson 4 | Lesson 5 | Lesson 6 | Future Learning |
| **Knowledge:**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 | **Knowledge:**generate, develop, model and communicate their ideas through discussion, annotated sketchesunderstand and apply the principles of a healthy and varied diet | **Knowledge:**prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques | **Knowledge:**select from and use a wider range of ingredients, according to their functional properties and aesthetic qualities | **Knowledge:**understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed | **Knowledge:**evaluate their ideas and products against their own design criteria and consider the views of others to improve their work | Children understand properties of materials in order to compare and make appropriate choices for future designs and productsChildren are able to reflect on the process to inform future choices of designing and makingChildren evaluate their learning, using photographs, sketches or the real items to refine their skills |
| **Success Criteria**Children research traditional Cornish food produceChildren create a menu for their families to eat at a community school event | **Success Criteria** Children communicate ideas through sketches of foodChildren ensure their menu is healthy and varied | **Success Criteria**Children cook a savoury dish for their family to eatChildren bake or make a sweet treat for their familyChildren experience a range of baking or cooking techniques | **Success Criteria**Children use a range of ingredients to create a tasty meal for their relativesChildren develop and refine cooking and baking skills | **Success Criteria**Children can talk about the origins of their food, especially where it was sourced and how it has grown.  | **Success Criteria**Children evaluate their ideas and products against the original plan and talk about whether they needed to alter the plan or would like to if they have the chance to remake the food |
| Vocabulary: Research Specification Analyse Combine Construct Criteria Evaluate Requirements Functionality DiagramYeast Dough Bran Seasonality Source Intolerance Allergy Varied Gluten NutritionGrams/Kilograms Millilitre/Litre Temperature Celsius Hygiene Utensils Texture vegan sustainable |