# DT Long Term Plan
# 2021-2022

| | Autumn 1 / Autumn 2 | Spring1 / Spring 2 | Summer1 / Summer2 |
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| **Year One** | **To design, make and evaluate a healthy meal.**<br><br>- use the basic principles of a healthy and varied diet to prepare dishes<br><br>- understand where food comes from. | **Build a structure and explore how the structure can be made stiffer, stronger and more stable.**<br><br>**Design**<br>- design purposeful, functional, appealing products for themselves and other users based on design criteria<br>-generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology<br>**Make**<br>-select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing] | **To design and make a picture with a moveable mechanism.**<br>**Design**<br>- design purposeful, functional, appealing products for themselves and other users based on design criteria<br>-generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology<br>**Make**<br>-select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing] |

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| | | -select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics<br>**Evaluate**<br>-explore and evaluate a range of existing products<br>-evaluate their ideas and products against design criteria Technical knowledge<br>-build structures, exploring how they can be made stronger, stiffer and more stable<br>-explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products. | -select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics<br>**Evaluate**<br>-explore and evaluate a range of existing products<br>-evaluate their ideas and products against design criteria Technical knowledge<br>-build structures, exploring how they can be made stronger, stiffer and more stable<br>-explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products. |
| **Year Two** | **Design and make – Models of the types of buildings burned in the GFNG**<br><br>**Design**<br>- design purposeful, functional, appealing products for themselves and other users based on design criteria<br>-generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology<br>**Make**<br>-select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing]<br>-select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics<br>**Evaluate**<br>-explore and evaluate a range of existing products<br>-evaluate their ideas and products against design criteria Technical knowledge<br>-build structures, exploring how they can be made stronger, stiffer and more stable<br>-explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products. | **Food technology – savoury dishes**<br><br>- use the basic principles of a healthy and varied diet to prepare dishes<br><br>- understand where food comes from.<br><br>-select from and use a wide range of ingredients, according to their characteristics | **Design and make – Textiles, sewing.**<br>**Design**<br>- design purposeful, functional, appealing products for themselves and other users based on design criteria<br>-generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology<br>**Make**<br>-select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing]<br>-select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics<br>**Evaluate**<br>-explore and evaluate a range of existing products<br>-evaluate their ideas and products against design criteria Technical knowledge<br>-build structures, exploring how they can be made stronger, stiffer and more stable<br>-explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products. |
| **Year Three** | **Understand and apply the principles of a healthy and varied diet** | **Textile Design – (use of variety of materials and techniques)** | **Understand and use mechanical systems in their products** |

| | | Design | Apply their understanding of how to strengthen, stiffen and reinforce more complex structures. |
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-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.

**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 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.

**Apply their understanding of how to strengthen, stiffen and reinforce more complex structures.**
**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 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. |
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| **Year Four** | **Prepare and cook a variety of dishes.**<br><br>-understand and apply the principles of a healthy and varied diet<br>-prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques<br>-understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed. | **Understand and use electrical systems in their products.**<br><br>**Design**<br>-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<br><br>-generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design<br><br>**Make**<br><br>-select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately<br><br>-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<br><br>**Evaluate**<br><br>-investigate and analyse a range of existing products<br><br>-evaluate their ideas and products against their own design criteria and consider the views of others to improve their work<br><br>-understand how key events and individuals in design and technology have helped shape the world Technical knowledge<br><br>-apply their understanding of how to strengthen, stiffen and reinforce more complex structures<br><br>-understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages]<br><br>-understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors] | **Textiles.**<br><br>**Design**<br>-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<br><br>-generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design<br><br>**Make**<br><br>-select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately<br><br>-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<br><br>**Evaluate**<br><br>-investigate and analyse a range of existing products<br><br>-evaluate their ideas and products against their own design criteria and consider the views of others to improve their work<br><br>-understand how key events and individuals in design and technology have helped shape the world Technical knowledge<br><br>-apply their understanding of how to strengthen, stiffen and reinforce more complex structures<br><br>-understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages] |

| | | -apply their understanding of computing to program, monitor and control their products. | -understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors]<br><br>-apply their understanding of computing to program, monitor and control their products. |
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| **Year Five** | **Textile Design – (use of variety of materials and techniques)**<br>**Design and make a purse or bag for an Anglo Saxon to keep their treasure in.**<br><br>**Design**<br><br>-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<br><br>-generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design<br><br>**Make**<br><br>-select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately<br><br>-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<br><br>**Evaluate**<br><br>-investigate and analyse a range of existing products<br><br>-evaluate their ideas and products against their own design criteria and consider the views of others to improve their work | **Research foods popular in NY and create a deli menu.**<br>-understand and apply the principles of a healthy and varied diet<br>-prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques<br>-understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed. | **Apply their understanding of how to strengthen, stiffen and reinforce more complex structures**<br><br>**Design**<br><br>-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<br><br>-generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design<br><br>**Make**<br><br>-select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately<br><br>-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<br><br>**Evaluate**<br><br>-investigate and analyse a range of existing products<br><br>-evaluate their ideas and products against their own design criteria and consider the views of others to improve their work<br><br>-understand how key events and individuals in design and technology have helped shape the world Technical knowledge |

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| | -understand how key events and individuals in design and technology have helped shape the world Technical knowledge<br><br>-apply their understanding of how to strengthen, stiffen and reinforce more complex structures<br><br>-understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages]<br><br>-understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors]<br><br>-apply their understanding of computing to program, monitor and control their products. | | -apply their understanding of how to strengthen, stiffen and reinforce more complex structures<br><br>-understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages]<br><br>-understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors]<br><br>-apply their understanding of computing to program, monitor and control their products. |
| **Year Six** | **Understand and use electrical systems in their products.**<br><br>**Design**<br><br>-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<br><br>-generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design<br><br>**Make**<br><br>-select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately<br><br>-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<br><br>**Evaluate** | **Prepare and cook a variety of dishes.**<br><br>-understand and apply the principles of a healthy and varied diet<br>-prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques<br>-understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed. | **Textiles**<br><br>-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<br><br>-generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design<br><br>**Make**<br><br>-select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately<br><br>-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<br><br>**Evaluate**<br><br>-investigate and analyse a range of existing products |

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| | -investigate and analyse a range of existing products<br><br>-evaluate their ideas and products against their own design criteria and consider the views of others to improve their work<br><br>-understand how key events and individuals in design and technology have helped shape the world Technical knowledge<br><br>-apply their understanding of how to strengthen, stiffen and reinforce more complex structures<br><br>-understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages]<br><br>-understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors]<br><br>-apply their understanding of computing to program, monitor and control their products. | | -evaluate their ideas and products against their own design criteria and consider the views of others to improve their work<br><br>-understand how key events and individuals in design and technology have helped shape the world Technical knowledge<br><br>-apply their understanding of how to strengthen, stiffen and reinforce more complex structures<br><br>-understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages]<br><br>-understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors]<br><br>-apply their understanding of computing to program, monitor and control their products. |
| **Penguins** | **Prepare and cook a variety of dishes**<br>-understand and apply the principles of a healthy and varied diet<br>-prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques<br>-understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed. | **Textile Design – (use of variety of materials and techniques)**<br><br>**Design**<br><br>-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<br><br>-generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design<br><br>**Make**<br><br>-select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately<br><br>-select from and use a wider range of materials and components, including construction materials, textiles | **Understand and use mechanical systems in their products**<br>**Apply their understanding of how to strengthen, stiffen and reinforce more**<br>**complex structures**<br><br>**Design**<br><br>-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<br><br>-generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design<br><br>**Make** |

| | | and ingredients, according to their functional properties and aesthetic qualities<br><br>**Evaluate**<br><br>-investigate and analyse a range of existing products<br><br>-evaluate their ideas and products against their own design criteria and consider the views of others to improve their work<br><br>-understand how key events and individuals in design and technology have helped shape the world Technical knowledge<br><br>-apply their understanding of how to strengthen, stiffen and reinforce more complex structures<br><br>-understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages]<br><br>-understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors]<br><br>-apply their understanding of computing to program, monitor and control their products. | -select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately<br><br>-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<br><br>**Evaluate**<br><br>-investigate and analyse a range of existing products<br><br>-evaluate their ideas and products against their own design criteria and consider the views of others to improve their work<br><br>-understand how key events and individuals in design and technology have helped shape the world Technical knowledge<br><br>-apply their understanding of how to strengthen, stiffen and reinforce more complex structures<br><br>-understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages]<br><br>-understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors]<br><br>-apply their understanding of computing to program, monitor and control their products. |