

Pennine Way Primary School

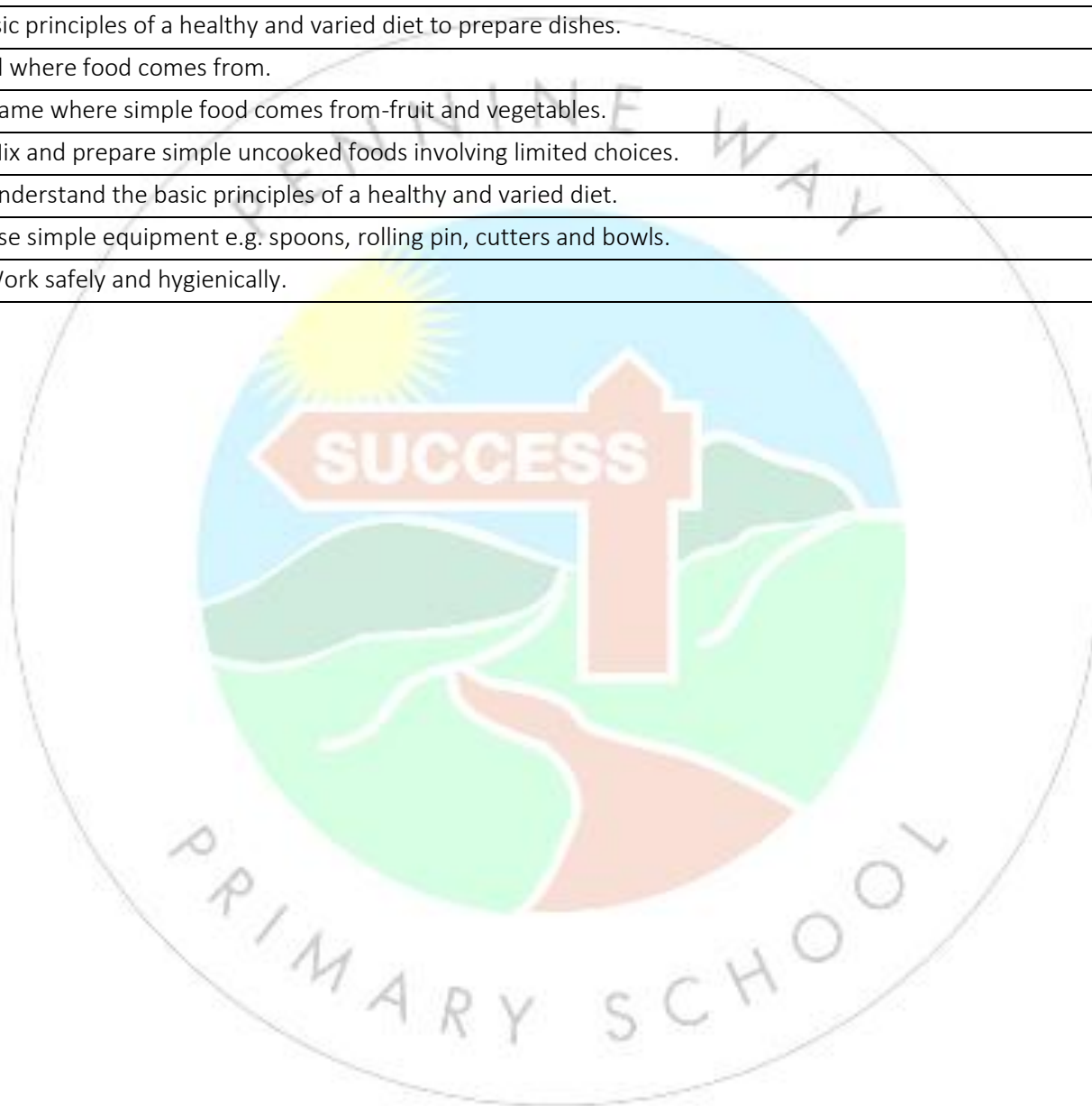


DT Curriculum and Skills Plan

National Curriculum Objectives and skills

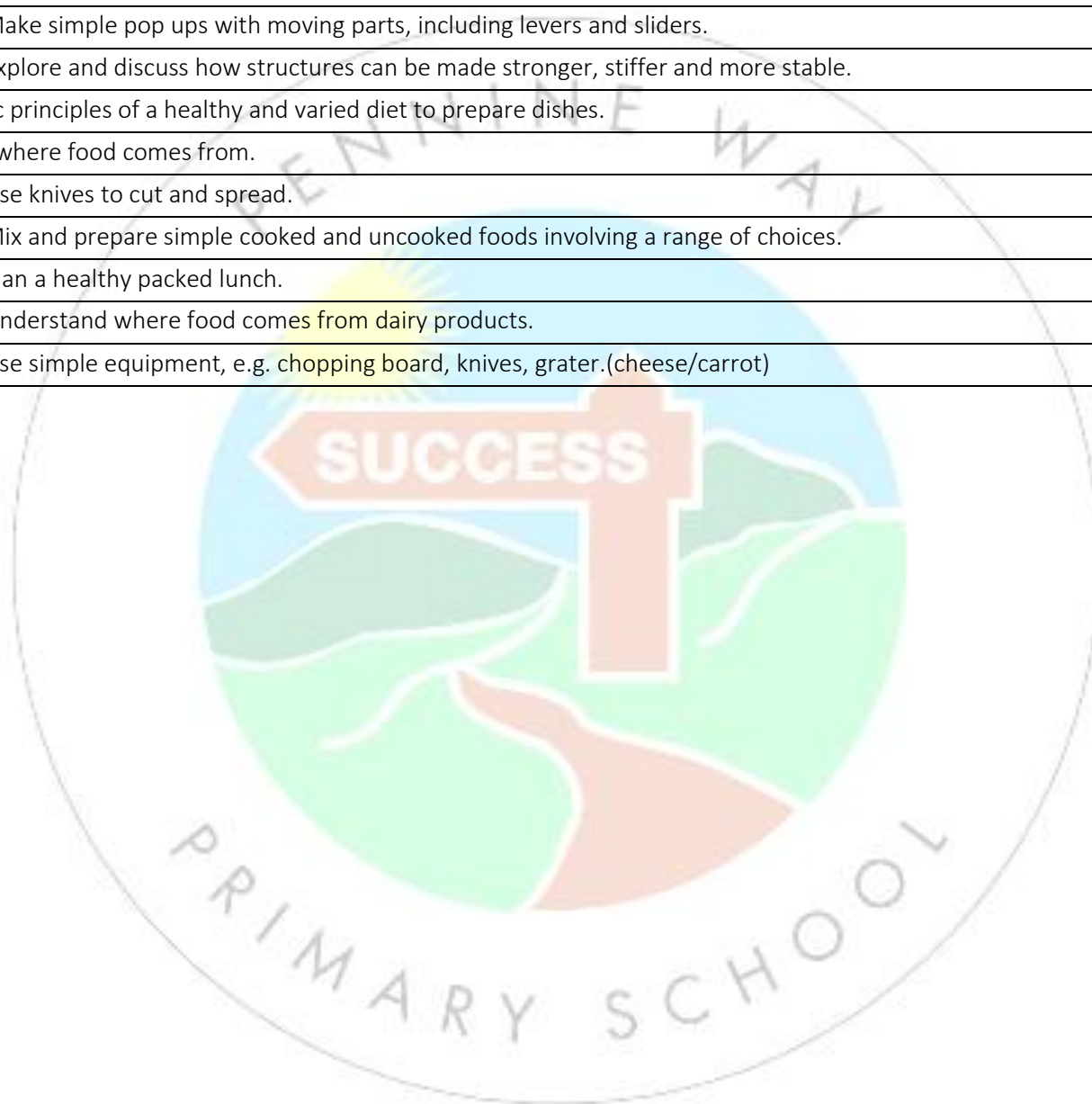
| Design Technology National Curriculum Expectations Year 1 | | Year 1 | | | | |
|---|--|---|-----|-----|--|--|
| | | Aut | Spr | Sum | | |
| Design | Design purposeful, functional, appealing products for themselves and other users based on design criteria. | | | | | |
| | Generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology. | | | | | |
| | DT1.1 | Design a model car with a given design criteria. | | | | |
| | DT1.2 | Design a Christmas decoration to be sewn. | | | | |
| | DT1.3 | Use a computing program to design a Christmas decoration. | | | | |
| Make | Select 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 characteristics. | | | | | |
| | DT1.4 | Use a running stitch in plastic with wool. | | | | |
| | DT1.5 | Make a Christmas decoration using sewing skills. | | | | |
| | DT1.6 | Use a construction kit to make a model car. | | | | |
| | DT1.7 | Follow a simple given recipe to make healthy snacks including biscuits. | | | | |
| Evaluate | Explore and evaluate a range of existing products. | | | | | |
| | Evaluate their ideas and products against design criteria. | | | | | |
| | DT1.8 | Explore and evaluate a range of Christmas decorations. | | | | |
| | DT1.9 | Evaluate a finished decoration against the original design. | | | | |
| | DT1.10 | Evaluate a range of model cars. | | | | |
| | DT1.11 | Evaluate a finished car against their original design. | | | | |
| Technical knowledge | Build structures, exploring how they can be made stronger, stiffer and more stable. | | | | | |
| | Explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products. | | | | | |
| | DT1.12 | Use construction kits to make a product. | | | | |
| | DT1.13 | Use wheels and axles to make a model car. | | | | |
| | DT1.14 | Name parts of a model-chassis, wheel and axle | | | | |

| | | | | | |
|-----------------------|--|---|--|--|--|
| Cooking and nutrition | Use the basic principles of a healthy and varied diet to prepare dishes. | | | | |
| | Understand where food comes from. | | | | |
| | DT1.15 | Name where simple food comes from-fruit and vegetables. | | | |
| | DT1.16 | Mix and prepare simple uncooked foods involving limited choices. | | | |
| | DT1.17 | Understand the basic principles of a healthy and varied diet. | | | |
| | DT1.18 | Use simple equipment e.g. spoons, rolling pin, cutters and bowls. | | | |
| DT1.19 | Work safely and hygienically. | | | | |



| Design Technology National Curriculum Expectations Year 2 | | Year 2 | | | |
|---|--|---|-----|-----|--|
| | | Aut | Spr | Sum | |
| Design | Design purposeful, functional, appealing products for themselves and other users based on design criteria. | | | | |
| | Generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology. | | | | |
| | DT2.1 | To design a stocking with a given design criteria. | | | |
| | DT2.2 | To draw and create a template/mock up of a stocking. | | | |
| | DT2.3 | To design a lighthouse with a given design criteria. | | | |
| Make | Select 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 characteristics. | | | | |
| | DT2.4 | Effectively use a range of tools and equipment to make a stocking. | | | |
| | DT2.5 | Use a running stitch in material using thread. | | | |
| | DT2.6 | Effectively use a range of tools, materials, components and equipment to make a lighthouse. | | | |
| | DT2.7 | Make a healthy sandwich following a simple recipe but with own choice of fillings. | | | |
| Evaluate | Explore and evaluate a range of existing products | | | | |
| | Evaluate their ideas and products against design criteria | | | | |
| | DT2.8 | Evaluate a range of stockings. | | | |
| | DT2.9 | Evaluate their stocking against the original design criteria. | | | |
| | DT2.10 | Evaluate a range of seaside structures. | | | |
| | DT2.11 | Evaluate their seaside structure against the original design criteria. | | | |
| | DT2.12 | Evaluate a range of sandwich fillings and give reasons for preferences. | | | |
| Technical knowledge | Build structures, exploring how they can be made stronger, stiffer and more stable. | | | | |
| | Explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products. | | | | |
| | DT2.13 | Communicate ideas through labelled sketches showing details. | | | |

| | | | | | |
|-----------------------|--|---|--|--|--|
| | DT2.14 | Make simple pop ups with moving parts, including levers and sliders. | | | |
| | DT2.15 | Explore and discuss how structures can be made stronger, stiffer and more stable. | | | |
| Cooking and nutrition | Use the basic principles of a healthy and varied diet to prepare dishes. | | | | |
| | Understand where food comes from. | | | | |
| | DT2.16 | Use knives to cut and spread. | | | |
| | DT2.17 | Mix and prepare simple cooked and uncooked foods involving a range of choices. | | | |
| | DT2.18 | Plan a healthy packed lunch. | | | |
| | DT2.19 | Understand where food comes from dairy products. | | | |
| | DT2.20 | Use simple equipment, e.g. chopping board, knives, grater.(cheese/carrot) | | | |



| Design Technology National Curriculum Expectations Year 3 | | Year 3 | | | | | |
|---|--|---|-----|-----|--|--|--|
| | | Aut | Spr | Sum | | | |
| 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. | | | | | | |
| | DT3.1 | To research a range of bridge structures to ideas for a design criteria. | | | | | |
| | DT3.2 | Develop design criteria for a bridge that is innovative, functional and appealing. | | | | | |
| | DT3.3 | Design a bridge using cross sectional diagrams. | | | | | |
| | DT3.4 | Create a prototype of a bridge using paper. | | | | | |
| DT3.5 | Design a place mat or dream catcher for a chosen specific audience using 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. | | | | | | |
| | DT3.6 | Effectively use a range of tools and equipment to make a bridge. | | | | | |
| | DT3.7 | Select suitable materials and components to make a bridge. | | | | | |
| | DT3.8 | Select materials and components that follow the aesthetic qualities of the place mat or dream catcher design. | | | | | |
| | DT3.9 | Effectively use a range of tools and equipment to make a piece of weaving. | | | | | |
| DT3.10 | Make a pizza (including a given recipe for the base and toppings of own choice) using seasonal, local produce. | | | | | | |
| 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. | | | | | | |
| | DT3.11 | Evaluate a range of different model bridges. | | | | | |
| | DT3.12 | Research and understand the key functions of famous bridges around the world. | | | | | |
| | DT3.13 | Evaluate their bridge against the design criteria and discuss how it could be improved. | | | | | |
| DT3.14 | Evaluate a range of different weaving styles and use to select ideas for own design. | | | | | | |

| | | | | | |
|-----------------------|--------|---|--|--|--|
| | DT3.15 | Evaluate their weaving against the design criteria. | | | |
| | DT3.16 | Evaluate their choice of pizza toppings to discuss preference with others who may have differing tastes. | | | |
| 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. | | | |
| | DT3.17 | Investigate how structures can fail when loaded. | | | |
| | DT3.18 | Understand bridges are strengthened to reinforce them. | | | |
| | DT3.19 | Apply this understanding to create a bridge which can withhold a weight. | | | |
| Cooking and nutrition | | 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. | | | |
| | DT3.20 | Measure and weigh ingredients with some support. | | | |
| | DT3.21 | Use simple tools e.g. sieve ,oven, oven gloves | | | |
| | DT3.22 | Understand seasonality and select from seasonal and local produce to create a pizza topping. | | | |
| | DT3.23 | Prepare and cook a savoury meal- pizza. | | | |

| Design Technology National Curriculum Expectations Year 4 | | Year 4 | | | |
|---|--|--|-----|-----|--|
| | | Aut | Spr | Sum | |
| 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. | | | | |
| | DT4.1 | Create design criteria for a material puppet that is innovative, functional and appealing. | | | |
| | DT4.2 | Design a puppet for a chosen specific audience using computer- aided design. | | | |
| | DT4.3 | Generate pattern pieces to make a puppet. | | | |
| | DT4.4 | Design an electrical system using a cross-sectional and exploded diagram. | | | |
| 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. | | | | |
| | DT4.5 | Effectively use a range of tools and equipment to make puppet. | | | |
| | DT4.6 | Select suitable materials and components to make a puppet. | | | |
| | DT4.7 | Select materials and components that follow the aesthetic qualities of the puppet design. | | | |
| | DT4.8 | Use different but appropriate ways to join materials in textiles work e.g. glue, pins, sewing. | | | |
| | DT4.9 | Sew a button on to a piece of material. | | | |
| | DT4.10 | Make a model using electrical systems.(eg switches, bulbs, buzzers and motors) | | | |
| | DT4.11 | Make pasta following a given recipe. | | | |
| | DT4.12 | Combine the pasta with other ingredients to make a healthy main meal that they have planned. | | | |
| 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. | | | | |
| | DT4.13 | Evaluate a range of different puppets and their properties. | | | |

| | | | | | |
|-----------------------|--------|---|--|--|--|
| | DT4.14 | Evaluate their puppet against the design criteria. | | | |
| | DT4.15 | Research key designers of puppets in history. | | | |
| | DT4.16 | Investigate and analyse a range of pasta meals and use opinions to inform own recipe. | | | |
| | DT4.17 | Evaluate own electrical system and those of peers. | | | |
| 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. | | | |
| | DT4.18 | Understand how electrical systems work and can be used in everyday objects. | | | |
| | DT4.19 | Apply knowledge of circuits in Science to use electrical systems in a product. | | | |
| | DT4.20 | Build a product around the understanding of how an electrical system can be used within it. | | | |
| | DT4.21 | Use vocabulary related to electrical systems whilst making and evaluating their products. | | | |
| Cooking and nutrition | | 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. | | | |
| | DT4.22 | Measure and weigh ingredients with minimal support. | | | |
| | DT4.23 | Use variety of tools, chopping board, range of knives, colander, pasta machine | | | |
| | DT4.24 | Boil water and cook pasta. | | | |
| | DT4.25 | Fry ingredients. | | | |
| | DT4.26 | Discuss where ingredients are grown, reared, caught and processed. | | | |
| | DT4.27 | Discuss health and safety regarding the preparation of raw and cooked foods, e.g. different coloured chopping boards. | | | |

| Design Technology National Curriculum Expectations Year 5 | | Year 5 | | | |
|---|--|---|-----|-----|--|
| | | Aut | Spr | Sum | |
| 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. | | | | |
| | DT5.1 | Research and develop design criteria for a pencil case /bag with a zip that is appealing and fit for purpose. | | | |
| | DT5.2 | Design a pencil case/bag with a zip using annotated sketches. | | | |
| | DT5.3 | Make a prototype of a pencil case / bag with a zip. | | | |
| | DT5.4 | Generate pattern pieces to make a pencil case / bag with a zip. | | | |
| | DT5.5 | Design a mechanical system using an exploded diagram and computer aided design. | | | |
| | DT5.6 | Plan a product to enter into a bread making contest using annotated sketches and cross-sectional diagrams. | | | |
| 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. | | | | |
| | DT5.7 | Make a bag/pencil case using a wide range of tools and equipment. | | | |
| | DT5.8 | Select suitable materials and components, including a zip, that follow the aesthetic qualities of the bag / pencil case design. | | | |
| | DT5.9 | Use different but appropriate ways to join materials in textiles work- back stitch and adding a zip. | | | |
| | DT5.10 | Make and use a product that includes mechanical systems. | | | |
| | DT5.11 | Follow a self created recipe to make a loaf of bread. | | | |
| 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. | | | | |
| | DT5.12 | Evaluate a range of different bags/pencil cases and their properties. | | | |
| | DT5.13 | Evaluate their bag/pencil case against the design criteria. | | | |
| | DT5.14 | Investigate and analyse a range of different breads to use ideas in own designs. | | | |
| | DT5.15 | Ask peers for feedback on their bread and write improvement suggestions based on this. | | | |

| | | | | | |
|-----------------------|--------|---|--|--|--|
| | DT5.16 | Evaluate own mechanical system and those of peers. | | | |
| 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. | | | |
| | DT5.17 | Understand how mechanical systems work and can be used in everyday objects. | | | |
| | DT5.18 | Understand the purpose of gears, pulleys, cams, levers and linkages in mechanical products. | | | |
| | DT5.19 | Build a product around the understanding of how a mechanical system can be used to make it move. | | | |
| | DT5.20 | Use vocabulary related to mechanical systems whilst making and evaluating their products. | | | |
| Cooking and nutrition | | 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. | | | |
| | DT5.21 | Weigh and measure accurately and independently. | | | |
| | DT5.22 | Use variety of tools including a bread maker. | | | |
| | DT5.23 | Begin to select appropriate tools from a range of equipment. | | | |
| | DT5.24 | Knead dough to make bread. | | | |
| | DT5.25 | Understand and use seasonal products to add to the bread making or use as a topping / through the dough. | | | |

| Design Technology National Curriculum Expectations Year 6 | | Year 6 | | | |
|---|--|--|-----|-----|--|
| | | Aut | Spr | Sum | |
| 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. | | | | |
| | DT6.1 | Research and develop design criteria for a knitted product. | | | |
| | DT6.2 | Design a moving model using annotated sketches, cross-sectional and exploded diagrams. | | | |
| | DT6.3 | Design a moving model that is innovative, functional and fit for purpose. | | | |
| | DT6.4 | Plan a meal for a specific audience (parents). | | | |
| | DT6.5 | Plan a 2 course meal for parents using annotated sketches, computer aided design and cross-sectional diagrams. | | | |
| 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. | | | | |
| | DT6.6 | Make a moving model using construction materials that is controlled by a computer. | | | |
| | DT6.7 | Select materials and components that follow the aesthetic qualities of the design for a knitted product. | | | |
| | DT6.8 | Follow a self created recipe to make a 2 course meal for a parent. | | | |
| 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. | | | | |
| | DT6.9 | Investigate and evaluate a number of knitted products that could be used for differing purposes. | | | |
| | DT6.10 | Evaluate their knitted product against the design criteria. | | | |
| | DT6.11 | Research individuals who have designed moving models using technology and how this has impacted on lives. | | | |
| | DT6.12 | Ask parents for feedback on their meal and write improvement suggestions based on this. | | | |
| 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. | | | |
| | DT6.13 Understand how computers can be used to control everyday objects. | | | |
| | DT6.14 Understand the purpose of why computers are used to program everyday objects. | | | |
| | DT6.15 Understand how computers can be used to monitor everyday objects. | | | |
| | DT6.16 Build a product which relies upon using a computer to program a product to monitor or control. | | | |
| | DT6.17 Use vocabulary related to programming, monitoring and controlling products. | | | |
| Cooking and nutrition | 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. | | | |
| | DT6.18 Weigh and measure accurately and independently. | | | |
| | DT6.19 Plan a healthy menu using seasonal products | | | |
| | DT6.20 Select most appropriate tools and equipment to make each dish. | | | |
| | DT6.21 Understand and know where and how food is reared, caught and processed.(meat) | | | |
| | DT6.22 Apply health and safety knowledge regarding the preparation of raw and cooked foods to safely prepare and cook their meal. | | | |

