

# North Lancing Primary School – Knowledge Progression in Design and Technology (Reception)



| Reception | Topic:                      | Prior Knowledge:  | Key New Knowledge:  | Key Vocabulary:   | Working Technically:  |
|-----------|-----------------------------|---|---|---|---|
| Autumn 1  | All about me                | Match their developing physical skills to tasks and activities in the setting.                              | To know how creators make decisions in order to design projects. Cooking nutrition: Scones - cutting and spreading, Buttering toast - Spreading, Sausage cutting - Using a knife and fork. Crumpets and toppings - cutting and spreading. | How, choose, material, design, create, make,<br><br>Scone, cut, knife, spread, like, dislike, sharp, fork, spread,  | To discuss how decisions have been made when creating.<br><br>Children will begin to elicit a love of cooking as one of the great expressions of human creativity.                                      |
| Autumn 2  | Awesome animals             | Choose the right resources to carry out their own plan.   | To learn the names and uses of different tools and techniques that can be used to create.   | Glue, paper, card, spreader, scissors, cutting, stamps, sponges, glitter, autumn, leaves, print, pattern,   | To use simple tools and techniques competently and appropriately.   |
| Spring 1  | Arctic adventure            | Join different materials and explore different textures.  | To understand that materials can be combined to create a structure with purpose. Children will have an awareness of how to cook and a basic understanding of what are healthy and unhealthy foods.  | Building, den, stick, weak, sharp, structure, strong, plan, how, connecting, spikey, safe. Slicing chopping, peeling, , variety of vegetables, wok, stir fry, cook, measure, quantity, recipe, scales, spread, cut, half, quarter | To design and create a sculpture representing an animal den. Cooking nutrition: Creating a stir fry - chopping and peeling, Making pancakes – measuring, Creating sandwiches – spreading and cutting.   |
| Spring 2  | People who help us          | Talk about the differences between materials and changes they notice.                                       | To describe ways of safely using and exploring a variety of materials.  | Scissors, cutting, safe, sharp, grip, forward, attach, stick, tape, glue,   | To use a variety of materials to independently create and build props and structures ( <i>junk modelling</i> ),   |
| Summer 1  | Commotion in the ocean      | Explore collections of materials with similar and/or different properties.                                  | To know the different uses and purposes of a range of media and materials.<br>Begin to understand that cooking is a life skill that enables them to feed themselves   | Paper, card, crepe, tissue, plastic, glitter, rubber, foam, sequins, clay, play-doh, making, tools, Variety of fruits, skewer, cutting, slicing, cubes, equal, recipe, measuring cup, quantity                                    | To use what they have learnt about media and materials in an original way and be able to explain their choices. Fruit kebabs cutting, skewering, Making bread rolls - following a recipe and measuring. |
| Summer 2  | Fairytales and celebrations | Develop their small motor skills so that they can use a range of tools competently, safely and confidently. | Selects tools and techniques needed to shape, assemble and join materials they are using.   | Tape, glue, string, attach, join, together, separate, assemble, planning, weak, strong, flap, hinge,  | Selects appropriate resources and adapts work where necessary. Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.      |



# North Lancing Primary School – Knowledge Progression in Design Technology (Year 1)

| Year 1   | Topic:                                     | Prior Knowledge:   | Key New Knowledge:   | Key Vocabulary:   | Working technically:   |
|----------|--|--|--|---|--|
| Autumn   | <b>Fabulous Food</b>                       | Children will have an awareness of how to cook and a basic understanding of what are healthy and unhealthy foods.  | Design, make and evaluate. Understand about healthy and unhealthy food and varied diet. Cooking and nutrition: Understand where food comes from. Name a variety of fruits and talk about colour, texture and appeal..  | Design, make and evaluate, biscuit, icing, decoration, fruit names, healthy, ingredients, slice, knife, safety, hygiene, diet, improve  | Design purposeful and appealing biscuits for themselves and others based upon design criteria. Select a limited range of resources and ingredients available. Carry out a simple evaluation of their own product. Designing a fruit salad with increased expectations of evaluation  |
| Spring 1 | <b>The aliens are coming</b>               | Know how creators make decisions in order to design projects. Names and uses of different tools and techniques that can be used to create. Free exploration of materials and joining techniques. | Design, make and evaluate. Evaluate and test ideas and products. Working collaboratively to create a pod against success criteria and design using a range of appropriate materials based upon scientific knowledge. Know how to join and strengthen materials. Assess suitability for purpose. Pre explore of materials and joining techniques. | Design, make, evaluate, landing pod, stable, strong, test, weak, unstable, material properties, fix, join, glue, cellotape, staple, landing, speed, success, failure, improve | Generate, develop and communicate ideas through talking, drawing, labelling. To design a functional 'landing pod' based upon a design. Select from a range of materials/ tools including materials based upon characteristics (see science). Evaluate ideas and products against design criteria. Work as a group to design/ make a safe landing pod for Eggbert |
| Spring 2 | <b>Heroes and Villains</b>                 | Understand that materials can be combined to create a structure with purpose. Select tools and techniques needed to shape, assemble and join materials.  | Design, make and critically evaluate. Focus on design and product correlation. Critique, evaluate ideas and products. Know how to fix/attach materials successfully using prior knowledge from landing pod design. Using peer evaluation on appeal of product and translation of design.   | Design, make, evaluate, decorate, fabric, glue, felt tip pens, sequins, scissors, pipe cleaners, cape, improve  | Generate, develop and communicate their ideas through talking, drawing, labelling. Select from a range of materials/tools including materials based upon characteristics focusing on design and product relation. Designing a superhero with a cape using wooden spoon as a basis, peer evaluation comparing to design.  |
| Summer 1 | <b>Wonderful world and amazing animals</b> | Describe ways of safely using and exploring a variety of materials . Know the different uses and purposes of a range of media and materials.   | Cooking and nutrition: Use the basic principles of a healthy diet to prepare a bread roll, understand where food comes from.   | Ingredients, recipe, flour, water, yeast, scissors, snip, shape, bake, changes in state, taste, improve   | Instil a love of cooking and a life skill to enable pupils to feed themselves. Select/use a range of tools/equipment for practical tasks – making hedgehog bread   |
| Summer 2 | <b>In the garden</b>                       | To know the different uses and purposes of a range of media and materials.   | Design, make and evaluate. Sustainability of product using only natural or degradable materials. Think about suitability of product for the user e.g. bird. What will be a suitable bird food?   | Design, make, evaluate, variety of bird seed, lard, pine/fur cone, orange string, sustainable, degradable, improve  | Design a purposeful and functional product based upon design. Select from a range of materials and components to complete a design. Evaluate ideas and products against design criteria. Making a pine/fur cone/orange bird feeder.  |

# North Lancing Primary School – Knowledge Progression in Design and Technology (Year 2)



| Year 2 | Topic:                       | Prior Knowledge:   | Key New Knowledge:   | Key Vocabulary:   | Technical knowledge:  |
|--------|------------------------------|--|--|---|---|
| Autumn | Castles, Knights and Dragons | To design, make and evaluated a product. To understand about healthy and unhealthy food and varied diet when decorating a biscuit. To know where food comes from and name a variety of fruits talking about colour, texture and appeal.              | To design, make and evaluate a trebuchet by exploring mechanisms [for example, levers, sliders, wheels and axles], in their products.<br>Following instructions to create a Christingle<br>To follow a recipe to make gingerbread - to understand that different foods have different textures. To know how to prepare food safely. To know and understand where food comes from   | Boulder, lever, counter-weight, arm, aim, fire, support triangles, pivot, wood, elastic band, blue tack, design, make, evaluate. Instructions, ribbon, cloves, candle<br>Gingerbread, spices, honey, water, mix, texture, flavour, aroma. | -To use mechanisms [for example, levers, sliders, wheels and axles], in their products.<br>- To generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups<br>-To understand why we must wash our hands.<br>-To describe different textures of food.  |
| Spring | Fire                         | To design, make and evaluate products against success criteria. To use a range of appropriate materials based upon scientific knowledge. Use skills to join, strengthen. Know the principles of a healthy diet. To understand where food comes from. | To design, make and evaluate a plan for the construction of a Tudor house using a range of materials. To know how to build structures, exploring how they can be made stronger, stiffer and more stable. Cooking and nutrition: To know how to prepare food safely and follow instructions on a recipe – making Pancakes and Easter nests – design and make, weighing, measuring, mixing, decorating. To understand why we must wash our hands before handling food. | Cardboard, lolly sticks, timber structure, thatched roof, lead windows, overhang, straw, rich, chimney, poor, window tax, design, make, evaluate.   | - To generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology<br>- Evaluate their ideas and products against design criteria.<br>-To follow a recipe when making a variety of foods<br>- To weigh and measure with increasing accuracy |
| Summer | Our Wonderful World          | To design, make and evaluated a sustainable product using only natural or degradable materials. To know about suitability of product for the user.   | Designing, making and evaluating know how to select from and use a range of tools and equipment to perform practical tasks [e.g. cutting, shaping, joining and finishing]. Know how to select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to characteristics  | Plastic bottle, scissors, glue, paper, paint, wool, bottle tops, design, make, evaluate   | - Evaluate their ideas and products against design criteria.<br>- To generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups<br>- Use a bottle to create a new product -   |

# North Lancing Primary School – Knowledge Progression in Design and Technology (Year 3)



| Year 3   | Topic:  | Prior Knowledge:  | Key New Knowledge:  | Key Vocabulary:  | Working technically:  |
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| Autumn 1 | Sewing  | Plan, make and evaluate according to a plan. To be critical in their evaluation.  | Sewing; Apply their understanding of patterns to design a book mark. Understanding of how to use cross stitch to create their product. Understanding the technique of how to use the needle and thread (up and down). Using their criteria to evaluate their own work and others. Plan how to use materials, equipment and processes and suggest alternative methods. | Binca, cross stitch, thread, running stitch, needle, design, plan, evaluate, tools, equipment, technique   | Design a pattern to create an appealing book mark made from binca, using cross stitch techniques.<br>Design and annotate designs. Make a bookmark using a range of tools and equipment to perform the practical task with accuracy. Evaluate against own design criteria and consider the views of others to improve work |
| Autumn 2 | Victorians  | To know different foods have different textures. To know how to prepare food safely. To know where food comes from.   | Cooking and nutrition: Use the basic principles of a healthy and varied diet to prepare a gingerbread Father Christmas and understand where food comes from.  | Recipe, gingerbread, tools, weighing, measuring, accuracy, ginger.   | Following a recipe to create a gingerbread Father Christmas   |
| Spring 2 | King Henry VIII and his six wives (links with Art and DT) | To design, make and evaluate. To know how to build structures, exploring how they can be made stronger, stiffer and more stable.  | To understand how to reinforce complex structures. Apply their understanding of how to strengthen, stiffen and reinforce more complex structures.<br>Plan, Design, Make and Evaluate  | Jewellery, painting, recreating, material, card, measure, circumference, fabric, pipe cleaners, beads, tissue paper  | Generate, develop, model and communicate their ideas through discussion. Select from a wider range of tools and perform tasks accurately. The children will plan, design, make and evaluate a Tudor crown in accordance to a plan.  |
| Summer   | Ancient Greeks  | To use a range of tools and equipment to perform practical tasks<br>Know how to prepare food safely and follow instructions on a recipe<br>Design and make, weighing, measuring, mixing, decorating | To know how to use a range of tools and equipment to perform practical tasks.<br>Design, make and evaluate a paper Mache Greek bowl decorating using authentic coloured paint.<br><br>Cooking and nutrition: Greek food tasting – to know how to slice and chop food.   | Paper, glue, design, paint, evaluate, papier Mache, Greek, patterns, geometric designs<br><br>A selection of Greek food, hummus, pitta, honey, yogurt, olives, feta, knife, slice, chop, | Design their product and annotate<br>Make their designs using a range of materials and equipment<br>Evaluate their product against their own design.<br><br>Discuss and prepare Greek food for tasting.   |

# North Lancing Primary School – Knowledge Progression in Design and Technology (Year 4)



| Year 4 | Topic:                    | Prior Knowledge:   | Key New Knowledge:   | Key Vocabulary:  | Working technically:   |
|--------|---------------------------|--|--|--|--|
| Spring | World War 2               | <p>To understand how to reinforce complex structures. Apply their understanding of how to strengthen, stiffen and reinforce more complex structures.<br/>Plan, Design, Make and Evaluate</p> <p>To know how to prepare food safely. To know where food comes from.</p> | <p>Research and understand the different shelters used in World War 2 and their purposes.<br/>Apply their understanding of how to make a model Anderson shelter and how to strengthen, stiffen and reinforce their structure.<br/>Understand and use electrical systems in their products. Know how to Join and combine materials and components.</p> <p>Know how to sew using basic stitches.</p> <p>Understand seasonality and know where and how a variety of ingredients are grown.<br/>To understand the nutritional value in a meal/ recipe.</p> | <p>Generate, design, plan, purpose, strengthen, stiffen, reinforce, labelled diagrams, features, components, evaluate, methods, tools, stitches, needles, materials,</p> | <p>Generate ideas, considering the purposes for which they are designing. Make labelled drawings from different views showing specific features. Plan how to use materials, equipment and processes and suggest alternative methods.<br/>Select appropriate tools and techniques for making their shelter.<br/>Measure, mark out, cut and shape a range of materials using appropriate tools and techniques.<br/>Evaluate their work both during and at the end of the assignment.<br/>Evaluate their products carrying out appropriate tests.<br/>Prepare and cook a range of savoury dishes (Woolton pie) using a range of techniques.</p> |
| Summer | Volcanoes and Earthquakes | <p>To understand how to reinforce complex structures. Apply their understanding of how to strengthen, stiffen and reinforce more complex structures.<br/>Plan, Design, Make and Evaluate</p>   | <p>Understand the cross sections of a volcano and the different types of volcanoes.<br/>Apply their understanding of how to make a model volcano and how to strengthen, stiffen and reinforce their structure.<br/>Know how to make labelled drawings from different views, including a cross-sectional diagram showing specific features.<br/>Know how to select appropriate tools and techniques for making their volcano.</p>   | <p>Generate, design, plan, purpose, strengthen, stiffen, reinforce, labelled diagrams, cross-sectional diagrams, features, components, evaluate, methods, tools,</p>     | <p>Generate ideas, considering the purposes for which they are designing. Plan how to use materials, equipment and processes and suggest alternative methods.<br/>Measure, mark out, cut and shape a range of materials using appropriate tools and techniques.<br/>Join and combine materials and components.<br/>Evaluate their work both during and at the end of the assignment.<br/>Evaluate their products carrying out appropriate tests.</p>   |

# North Lancing Primary School – Knowledge Progression in Design and Technology (Year 5)



| Year 5 | Topic:                   | Prior Knowledge:   | Key New Knowledge:   | Key Vocabulary:   | Working technically:  |
|--------|--------------------------|--|--|---|---|
| Autumn | Christmas baking         | To know how to use a range of tools and equipment to perform practical tasks. Know how to prepare food safely and follow instructions on a recipe. | Research and design from current products on the market. Analysing current products. Survey and collate ideas from an audience to establish design criteria for a desirable design. Designing the product – annotate the design. Designing effective packaging . Weighing and mixing ingredients. Record step-by-step instructions as a recipe. Evaluate the success of the product.   | Seasonal<br>Decorative<br>Design<br>Collate<br>Annotate<br>Packaging<br>Recipe  | Following a recipe<br>Measuring and mixing ingredients<br>Using baking tools safely<br>Baking<br>Finishing of product                         |
| Spring | Space – sewing/ applique | Know how to sew using basic stitches. Measure, mark out, cut and shape a range of materials using appropriate tools and techniques.                | Use a range of media to explore the theme Space. Draw and annotate space applique design using the space theme. Experimenting with different multimedia to create the design. Practise different stitch styles – running stitch, backstitch – on calico. Making and adapting design, using felt to make the design 3D in places Evaluating design for its quality and closeness to the design.   | running stitch, backstitch<br>Calico, Applique , Colour scheme, Applique, Tacking, Stuffing, Felt.                                  | Back stitch<br>Running stitch<br>Applique<br>Needle work  |
| Summer | Robot Wars               | Understand and use electrical systems in their products. Know how to Join and combine materials and components.                                    | Draw out a scaled plan of the base of the robot. Annotate the design to record the key measurements are accurate. Design the top part of the robot to make it aesthetically pleasing. Design a simple circuit that includes a switch. Accurately measure and cut the frame using a hacksaw. Stick and reinforce the joints using a hot glue gun. Construction and placement of axles using dowel rod and axle holders. Create an electrical circuit powered by batteries. Discover how to use the motor to power the robot. Troubleshoot problems and adapting the design of the robot if required | Design<br>Key measurements<br>Circuits<br>Dowel<br>Axle<br>Troubleshooting<br>Square corners<br>Scaled plan<br>Base design<br>motor | Measuring accurately to given lengths<br>Cutting squarely<br>Using a hacksaw safely<br>Using a gluegun<br>Creating a circuit to power a motor |

# North Lancing Primary School – Knowledge Progression in Design and Technology (Year6)



| Year 6 | Topic:                                 | Prior Knowledge:  | Key New Knowledge:   | Key Vocabulary:   | Working technically:  |
|--------|--|---|--|---|---|
| Autumn | <b>Christmas Carousel Construction</b> | Design a simple circuit that includes a switch. Know how to Join and combine materials and components.                              | Research and design from current products on the market. Analysing current products<br>Survey and collate ideas from an audience to establish design criteria for a desirable design. Cross sectional drawing of different angles of carousel design. Annotated designs. Use of Techcard and dowel and washers for ease of movement and reduction of friction. Switches, series circuits for lights. Making and adapting design – finishing<br>Evaluating design for its functional properties. Aesthetic requirements for a Christmas Carousel.   | Tech card<br>Cross sectional design<br>Annotated design<br>Washers, dowel, friction<br>Finishing elements<br>Analysing<br>Functional properties<br>Aesthetic qualities<br>Switches, series circuits for lights, Strengthening, stiffening product elements  | Evaluating current designs<br>Designing and annotating designs<br>Making with dowel, Techcard and washers<br>Evaluating against a set criteria for aesthetic and functioning skills |
| Spring | <b>Bunting - Sewing</b>                | Know how to sew using basic stitches. Measure, mark out, cut and shape a range of materials using appropriate tools and techniques. | Research and design from current products on the market. Analysing current products<br>Survey and collate ideas from an audience to establish design criteria for a desirable design. CAD design. Pattern pieces for bunting flags. Stitch styles – machine stitching, running stitch, backstitch.<br>Applique design. Annotated designs. Making and adapting design – finishing. Evaluating design for its functional properties. Aesthetic requirements for bunting – colour/thematic scheme.  | Machine stitching, running stitch, backstitch<br>Pinking sheers<br>Bias Binding<br>Computer Aided Design - CAD<br>Pattern Pieces<br>Colour scheme<br>Thematic design, Applique, Tacking   | Use of a sewing machine<br>Back stitch<br>Running stitch<br>Refine Yr5 Applique<br>CAD  |
| Summer | <b>Cooking and Nutrition - Pizza</b>   | Know how to prepare food safely and follow instructions on a recipe. Know how to Join and combine materials and components.         | Research and design from current products on the market. Analysing current products. Survey and collate ideas from an audience to establish design criteria for a desirable design – base, sauce and toppings. Designs for base, sauce and toppings – nutritional balance. Annotated designs. Use of different flours including adaptations for sweet and savoury designs and dietary requirements – gluten free. Making and adapting design – finishing.<br>Evaluating design for its nutritional requirements. Aesthetic requirements for a pizza including name of pizza and box design - extension | Dough, Kneading<br>Wholemeal/ plain/ self raising/ gluten free/ spelt/ rye, BBQ, tomato/ chilli sauce, Toppings – nutritional value/ vitamins/ fibre/ carbohydrate/ Seasonality of products according to availability for season.<br>Processed products – e.g. pepperoni. Budget and affordability. | Nutritional value of food<br>Kneading dough<br>Budgeting and affordability of design<br>Baking<br>Understanding seasonality<br>Finishing of product                                 |