

# Stanley Grove Primary and Nursery School

## Scheme of work for

### Design Technology



We are trusted with Parents' most precious possessions...  
... treasure them.

# What our children say about Design Technology

In Year 1 we built a house with sweets .It was fun.

In Year 2 we made clay penguins and we made shoes for elf and shoemaker. We got a piece of paper and drew a door.

In Year 3 we been making some purses for Mother's day. We liked painting things we had made.

In Year 4 I liked doing Tudor topic- making Roman chariots and Pizza.

In Year 5 I liked making the sculptures and food.

In Year 6 I enjoyed using electricity to make a light work. I had to think about it!

## Stanley Grove Essentials for this subject:

**The scheme of work for Design Technology aims to ensure that all pupils:**

- **Have an opportunity to think creatively about how to solve design problems. Embrace cross-curricular skills to secure D.T. learning.**
- **Can evaluate their own work critically and make suggestions for improvements.**
- **Know how to use equipment in a safe way.**
- **Have been taught the relevant technological skills to build their design.**
- **Have an appreciation of innovative technological design that they have seen or experienced in their everyday lives.**

All children experience a food activity every year, plus 2 other design projects. This is to ensure coverage and depth in our curriculum.

### Welly to Belly

We have invested in our outdoor learning areas around school. This includes relocating resources, purchasing a poly tunnel and new raised beds. Support assistants work across school in Term 1 to design and plan what children will need to grow in order to understand the process of growth and to be partly self-sufficient in our cooking projects (see school Welly to Belly display). Each class has an environment leader who is in charge of leading the care and tending of the plants they are growing.

# Design Technology

## Year 1

**Year 1** Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of designing and making. They should work in a range of relevant contexts [for example, the home and school, gardens and playgrounds, the local community, industry and the wider environment].

|        | Statutory requirements (National Curriculum)   | Stanley Grove Essentials(Skills)  | Suggested Activities   | Resources   |
|--------|--|---|--|---|
| Design | Pupils should be taught:<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>• use the basic principles of a healthy and varied diet to prepare dishes<br>§ understand where food comes from. | <ul style="list-style-type: none"> <li>Generate ideas from their own and others' experiences</li> <li>Develop ideas by shaping materials and putting together components</li> <li>talk about ideas</li> <li>Plan by suggesting what to do next as ideas develop</li> <li>Communicate ideas using a variety of methods including drawing and models</li> </ul> | Mechanisms-To design a product that moves using a turning mechanism ( wheels , winding, lever, hinge) e.g. design a moving picture<br>Visit to the local park. | Design sheets<br>Pictures or images of what designing for stimuli<br>Materials to be used |
|        | <ul style="list-style-type: none"> <li>Generate ideas from their own and others' experiences</li> <li>Plan by suggesting what to do next as ideas develop</li> <li>Communicate ideas using a variety of methods , including drawing and models</li> <li>talk about ideas</li> <li>use the basic principles of a healthy and varied diet to design dishes</li> <li>understand where food comes from</li> </ul>                        | Cooking – To design a fruit smoothie, fruit salad, jelly or ice lolly.<br>Visit to local shops<br>Grow plants (see Welly to Belly project)  |  |   |

|      | Statutory requirements (National Curriculum)   | Stanley Grove Essentials(Skills)   | Suggested Activities   | Resources                                |
|------|--|--|--|--|
| Make | § select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing] | <ul style="list-style-type: none"> <li>Explore how moving objects work</li> <li>Look at wheels, axles. Turning mechanisms, hinges and simple levers</li> </ul> | Mechanisms- Make a product that moves using a turning mechanism e.g. slide. Linked to transport or traditional tales-moving story                                | Materials scissors<br>mechanisms<br>Food |
|      | § select from and use a wide range of materials and components, including  | <ul style="list-style-type: none"> <li>Use knives safely to cut food with help</li> </ul>  | Cooking -Make a fruit smoothie , milk shake ,fruit salad , jelly or ice lolly. <ul style="list-style-type: none"> <li>Discuss origins of milk , fruit</li> </ul> |  |

|  |   |  |  |
|--|---|--|--|
| <ul style="list-style-type: none"> <li>construction materials, textiles and ingredients, according to their characteristics</li> <li>use the basic principles of a healthy and varied diet to prepare dishes</li> </ul> <p>§ understand where food comes from.</p> | <ul style="list-style-type: none"> <li>Use mixing bowls to prepare a mixture</li> <li>Make a food product</li> <li>Wash hands, keep work surfaces clean.</li> </ul> |  |  |
|--|---|--|--|

|                        | Statutory requirements (National Curriculum)   | Stanley Grove Essentials(Skills)   | Suggested Activities   | Resources |
|------------------------|--|--|--|-----------|
|                        | <b>Continuous throughout :</b>   | <ul style="list-style-type: none"> <li>Talk about their own and others' work</li> </ul>  |  |           |
| Evaluational knowledge | <ul style="list-style-type: none"> <li>explore and evaluate a range of existing products</li> <li>build structures, exploring how they evaluate their designs, errors and agree design criteria</li> </ul> | <ul style="list-style-type: none"> <li>Use materials using scissors</li> <li>Measure, mark out and cut fabric</li> <li>Join fabrics using glue</li> <li>Produce neat work</li> </ul> | <ul style="list-style-type: none"> <li>Share work together as a class</li> <li>Discuss work in pairs and evaluate can take them forward into Year 2</li> <li>Self evaluation – sheet or questionnaire using a design criteria</li> <li>sheet or questionnaire</li> </ul> | As above  |
|                        | <ul style="list-style-type: none"> <li>explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products.</li> </ul>  | <ul style="list-style-type: none"> <li>Use knives safely to cut food with help</li> </ul>  |  |           |

By the end of Key Stage 1 children should have had experience of using:

Construction materials – to strengthen and stabilise. Mechanisms – to move.

Textiles

Ingredients.

# Design Technology

## Year 2

Pupils should be taught:

Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of designing and making. They should work in a range of relevant contexts [for example, the home and school, gardens and playgrounds, the local community, industry and the wider environment].

Year 2

|        | Statutory requirements (National Curriculum)  | Stanley Grove Essentials(Skills)  | Suggested Activities  | Resources   |
|--------|---|---|---|---|
| Design | Pupils should be taught:  |   |   |   |
|        | § design purposeful, functional, appealing products for themselves and other users based on design criteria   | <ul style="list-style-type: none"> <li>• Generate ideas from their own and others' experiences</li> <li>• Develop ideas by shaping materials and putting together components</li> <li>• talk about ideas</li> <li>• Plan by suggesting what to do next as ideas develop</li> <li>• Communicate ideas using a variety of methods , including drawing and models</li> </ul> | Structures – To design a simple structure that is strong<br>e.g. making Tudor houses Fire vehicles  | Card<br>Paper<br>wood<br>Glue<br>string                               |
|        | § generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology | <ul style="list-style-type: none"> <li>• .Think of ideas and plan what to do next, based on my knowledge of materials and components</li> <li>• <b>Select appropriate tools, techniques and materials, explaining my choices</b><br/>Use models, pictures and words to describe my designs</li> </ul>   | Cooking – To design a pasta dish and / or salad   | Pasta<br>salad<br>bowls   |
|        |   |   | Textiles – To design a puppet using textiles e.g.<br>Design and make their own templates.<br>Look at a range of puppets for ideas – pop up, glove, finger.<br>Design an outfit for the elves. | Fabric<br>Paper – design a pattern to cut around<br>Needles<br>Cotton |

|      | Statutory requirements (National Curriculum)  | Stanley Grove Essentials(Skills)   | Suggested Activities                                   | Resources                               |
|------|---|--|--|---|
| Make | Pupils should be taught:  |  |  |   |
|      | <ul style="list-style-type: none"> <li>• <b>select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing]</b></li> </ul> | <ul style="list-style-type: none"> <li>• Make a structure that is strong</li> <li>• Measure and mark out materials with care.</li> <li>• Use safe ways of cutting including using a saw.</li> <li>• Use a range of joins</li> <li>• Make structures stronger by folding, joining or by shape (columns, triangles)</li> </ul> | Structures – To make a simple structure that is strong | Card<br>Paper<br>wood<br>Glue<br>string |

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|  | <ul style="list-style-type: none"> <li>§ select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics</li> </ul> | <ul style="list-style-type: none"> <li>• Describe the properties of the ingredients</li> <li>• Weigh and measure accurately</li> <li>• Describe my food product using its properties</li> </ul>  | <p><u>Cooking</u> – To make a pasta dish and / or salad</p> | Pasta salad bowls   |
|  | <ul style="list-style-type: none"> <li>• use the basic principles of a healthy and varied diet to prepare dishes</li> <li>§ understand where food comes from.</li> </ul>   | <ul style="list-style-type: none"> <li>• Use accurate measurements in cm</li> <li>• Use scissors precisely when cutting out</li> <li>• Join textiles using glue, staples, tying or a simple stitch</li> <li>• Make a textile product that is finished well and does the job it was made for</li> <li>• Know that textiles have different properties ( feel, texture, insulation, waterproof)</li> <li>• Select the appropriate textile so that it does the job well</li> </ul> | <p><u>Textiles</u> – To make a puppet using textiles</p>    | Fabric<br>Paper – design a pattern to cut around<br>Needles<br>Cotton |

|          | Statutory requirements (National Curriculum)   | Stanley Grove Essentials(Skills)  | Suggested Activities   | Resources           |
|----------|--|---|--|---------------------|
| Evaluate | <p><b>Continuous throughout :</b></p> <ul style="list-style-type: none"> <li>§ explore and evaluate a range of existing products</li> <li>§ evaluate their ideas and products against design criteria</li> </ul> | <ul style="list-style-type: none"> <li>• Talk about ideas, saying what they like and dislike</li> <li>• Identify what they could have done differently and how they could improve their work in the future               <ul style="list-style-type: none"> <li>• Recognise what has been done well in my work</li> </ul> </li> <li>• Suggest things I could do in the future to improve my work</li> </ul> | <ul style="list-style-type: none"> <li>• Share work together as a class</li> <li>• Discuss work in pairs and evaluate</li> <li>• Self evaluation – sheet or questionnaire using a design criteria</li> </ul> <p>sheet or questionnaire</p> | Questionnaire sheet |

|                     | Statutory requirements (National Curriculum)  | Stanley Grove Essentials(Skills)   | Suggested Activities   | Resources |
|---------------------|---|--|--|-----------|
| Technical knowledge | <p>build structures, exploring how they can be made stronger, stiffer and more stable</p> <ul style="list-style-type: none"> <li>§ explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products.</li> </ul> | <ul style="list-style-type: none"> <li>• Learn about the working characteristics of materials (folding paper, plaiting yarn to make it stronger)</li> <li>• How mechanisms can be used in different ways (wheels and axles that allow movement)</li> </ul> | To learn these skills when making products above so that children can take them forward into Year 3. |           |

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# Design Technology

## Year 3

Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of designing and making. They should work in a range of relevant contexts [for example, the home, school, leisure, culture, enterprise, industry and the wider environment].

When designing and making, pupils should be taught to:

### Year 3

|        | Statutory requirements (National Curriculum)  | Stanley Grove Essentials(Skills)   | Suggested Activities   | Resources   |
|--------|---|--|--|---|
| Design | <ul style="list-style-type: none"> <li>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</li> <li>generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design</li> </ul> | <ul style="list-style-type: none"> <li>Generate ideas and recognise that designs have to meet a range of different needs</li> <li>Make realistic plans to achieve aims</li> <li>Think ahead about the order of work, choose appropriate tools, equipment, materials, components and techniques</li> <li>Clarify ideas using labelled sketches and models to communicate details of the design</li> </ul> | <u>Mechanical</u><br>To design a mechanical wind -up toy e.g. lion   | Toys  |
|        |   |  | <u>Materials</u><br>To design packaging for a the wind up toy  | Card / boxes from home                                    |
|        |   |  | <u>Textiles ( link to Art S.O.W.)</u><br>To plan a sewing / weaving design/ To design a floral bag( smelly bag) or pin cushion | Paper strips/card Lavender / material / sewing implements |
|        |   |  | <u>Food</u><br>To design a sandwich filling / bread that is aesthetically pleasing   | Bread /marg knife /fillings                               |

|      | Statutory requirements (National Curriculum)  | Stanley Grove Essentials(Skills)   | Suggested Activities  | Resources                                     |
|------|---|--|---|---|
| Make | <ul style="list-style-type: none"> <li>select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately               <ul style="list-style-type: none"> <li>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</li> </ul> </li> </ul> | <ul style="list-style-type: none"> <li>Select the most appropriate tools and techniques to make my product</li> <li>Come up with solutions to problems as they happen</li> <li>Make a product that uses both electrical and mechanical components</li> <li>Product is finished well</li> </ul> | <u>Mechanical</u><br>To make a mechanical wind -up toy e.g using an elastic band and a cotton reel                              | toys  |
|      |   | <ul style="list-style-type: none"> <li>Use appropriate mouldable materials suitable for the product</li> <li>Shape the product carefully using appropriate techniques and tools</li> </ul> Apply texture or design to the product  | <u>Materials</u><br>To make packaging for a product e.g. the wind up toy they have made.  | material s/card / boxes from home to show net |
|      |   | <ul style="list-style-type: none"> <li>Select appropriate textiles for my product</li> <li>Use scissors accurately</li> </ul>  | <u>Textiles ( link to Art S.O.W.)</u><br>To make a sewing / weaving design/ To make a floral bag( smelly bag) or pin cushion    | Paper/card Lavender /                         |
|      |   | <ul style="list-style-type: none"> <li>Select ingredients for the product</li> <li>Work in a safe and hygienic way</li> <li>Measure ingredients by weight or quantity using scales</li> <li>The product is presented well</li> </ul>   | <u>Food</u><br>To make a sandwich filling / bread<br>Warburtons visit<br>Make sandwich to take on a visit or a picnic on field. | Bread fillings /knife                         |

|                     | Statutory requirements (National Curriculum)   | Stanley Grove Essentials(Skills)  | Suggested Activities  | Resources        |
|---------------------|--|---|---|------------------|
| Evaluate            | <ul style="list-style-type: none"> <li>investigate and analyse a range of existing products</li> <li>evaluate their ideas and products against their own design criteria and consider the views of others to improve their work</li> <li>understand how key events and individuals in design and technology have helped shape the world</li> </ul> | <ul style="list-style-type: none"> <li>Reflect on work in relation to intended use ( and users) and identify improvements needed</li> <li>Carry out appropriate tests first</li> <li>Recognise quality depends on how something is made and if it meets its intended use</li> <li>Evaluate products and suggest improvements</li> </ul> | <ul style="list-style-type: none"> <li>Share work together as a class</li> <li>Discuss work in pairs and evaluate</li> <li>Self evaluation – sheet or questionnaire using a design criteria sheet or questionnaire</li> <li>understand how key events and individuals in design and technology have helped shape the world : Link ideas to <b>Leonardo Da Vinci</b> and his work</li> </ul> | Evaluation sheet |
| Technical Knowledge | <ul style="list-style-type: none"> <li>apply their understanding of how to strengthen, stiffen and reinforce more complex structures</li> </ul>  | <ul style="list-style-type: none"> <li>Describe the qualities of the material and say why it will be the most suitable choice</li> <li>Join materials to make products using both permanent and temporary fixings</li> <li>Combine materials to add strength and visual appeal</li> </ul>   | As above –skills to learn to take into Year 4   |                  |
|                     | <ul style="list-style-type: none"> <li>understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages]</li> </ul>   | <ul style="list-style-type: none"> <li>Apply mechanisms to create movement</li> <li>Combine a number of components well in my product</li> </ul>  |   |                  |
|                     | <ul style="list-style-type: none"> <li>apply their understanding of computing to program, monitor and control their products</li> </ul>  | <ul style="list-style-type: none"> <li>Learn how mechanisms can be used to make things move in different ways, using a range of equipment including ICT control programs</li> </ul>   |   |                  |

By the end of Key Stage 2 children should have had experience of using:

Construction materials – to strengthen stiffen and reinforce. Mechanisms for movement. Electrical systems (bulbs, switches, motors) and Control (program, monitor and control their product)

Textiles

Ingredients

# Design Technology

## Year 4

Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of designing and making. They should work in a range of relevant contexts [for example, the home, school, leisure, culture, enterprise, industry and the wider environment].

Year 4

|        | Statutory requirements (National Curriculum)  | Stanley Grove Essentials(Skills)  | Suggested Activities   | Resources                          |
|--------|---|---|--|------------------------------------|
| Design | <ul style="list-style-type: none"> <li>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</li> <li>generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design</li> </ul> | <ul style="list-style-type: none"> <li>Generate ideas by collecting and using information.</li> <li>Take the views of users' into account when designing my products.</li> <li>Beginning to produce step by step plans</li> <li>Communicate alternative ideas using words, labelled sketches and models showing that I am aware of the constraints of my design.</li> </ul> | <u>Mechanical</u> <ul style="list-style-type: none"> <li>Use components to make a product that moves, e.g a Roman chariot.</li> <li>Ensure a range of sizes and resources are available. Children make own designs and templates.</li> </ul> | techcard<br>dowel axles and wheels |
|        |   |   | <u>Electrical</u> <ul style="list-style-type: none"> <li>Use electrical components to design a product that can be controlled by switches or by ICT equipment.eg. a simple light up scene using a bulb and a switch.</li> </ul>              | Electrical equipment               |
|        |   |   | <u>Materials</u> <ul style="list-style-type: none"> <li>To design and make a product that is fit for purpose linked to topic work using materials eg. Techcard, cardboard, for a Roman chariot.</li> </ul>                                   | As needed                          |
|        |   |   | <u>Food</u> <ul style="list-style-type: none"> <li>Design a food product e.g. pizza, Viking stew.</li> </ul>   | As required                        |

|  | Statutory requirements (National Curriculum) | Stanley Grove Essentials(Skills) | Suggested Activities | Resources |
|--|--|----------------------------------|----------------------|-----------|
|--|--|----------------------------------|----------------------|-----------|

|   |  |   |  |
|---|--|---|--|
| <ul style="list-style-type: none"> <li>select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately</li> <li>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</li> </ul> | <ul style="list-style-type: none"> <li>Choose components that can be controlled by switches or by ICT equipment</li> <li>Improve product after testing</li> </ul> Product is well finished in a way that appeals   | <u>Mechanical</u> <ul style="list-style-type: none"> <li>Make a mechanism that can be controlled by switches e.g a light up scene</li> </ul>                        |  |
|   | <ul style="list-style-type: none"> <li>Choose components that can be controlled by switches or by ICT equipment</li> <li>Improve product after testing</li> </ul> Product is well finished in a way that appeals   | <u>Electrical</u> <ul style="list-style-type: none"> <li>Make a mechanism that can be controlled by switches or by ICT equipment e.g light up scene</li> </ul>      |  |
|   | <ul style="list-style-type: none"> <li>Measure using mm, and use scoring and folding to shape materials accurately.</li> <li>Make cuts accurately and reject pieces that are not accurate.</li> <li>I make holes accurately</li> <li>Make sure methods of working are precise</li> </ul> | <u>Materials</u> <ul style="list-style-type: none"> <li>To make a product that is fit for purpose linked to topic work using materials e.g roman chariot</li> </ul> |  |
|   | <ul style="list-style-type: none"> <li>Use a selection of ingredients to meet an identified need (lunchtime snack, healthy sandwich)</li> <li>Work in a safe and hygienic way</li> <li>Present the food well and begin to think about packaging</li> </ul>                               | <u>Food</u> <ul style="list-style-type: none"> <li>To make a food product e.g. pizza, Viking stew</li> </ul>  |  |

|          | Statutory requirements (National Curriculum)   | Stanley Grove Essentials(Skills)   | Suggested Activities  | Resources           |
|----------|--|--|---|---------------------|
| Evaluate | <ul style="list-style-type: none"> <li>investigate and analyse a range of existing products</li> <li>evaluate their ideas and products against their own design criteria and consider the views of others to improve their work</li> <li>understand how key events and individuals in design and technology have helped shape the world</li> </ul> | <ul style="list-style-type: none"> <li>Reflect on my designs and develop them</li> <li>Identify what is working well and what can be improved</li> </ul> | <ul style="list-style-type: none"> <li>Share work together as a class</li> <li>Discuss work in pairs and evaluate</li> <li>Self evaluation – sheet or questionnaire using a design criteria sheet or questionnaire</li> <li><i>understand how key events and individuals in design and technology have helped shape the world</i> : Link ideas to Dyson and his work or other designer</li> </ul> | Questionnaire sheet |

|  | Statutory requirements (National Curriculum) | Stanley Grove Essentials(Skills) | Suggested Activities | Resources |
|--|--|----------------------------------|----------------------|-----------|
|--|--|----------------------------------|----------------------|-----------|

|  |   |   |  |
|--|---|---|--|
| <ul style="list-style-type: none"> <li>• apply their understanding of how to strengthen, stiffen and reinforce more complex structures</li> </ul>                    | <ul style="list-style-type: none"> <li>• Textile products include changes such as plaiting or weaving to create new products such as ropes, belts ,bracelets and to strengthen structures</li> <li>• Joins are strong and stable, giving extra strength to products<br/>Some joints are flexible to allow for dismantling or folding</li> </ul> | As above –skills to learn to take into Year 5 |  |
| <ul style="list-style-type: none"> <li>• understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages]</li> </ul> |   |   |  |
| <ul style="list-style-type: none"> <li>• apply their understanding of computing to program, monitor and control their products</li> <li>•</li> </ul>                 |   |   |  |



# Design Technology

## Year 5

Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of designing and making. They should work in a range of relevant contexts [for example, the home, school, leisure, culture, enterprise, industry and the wider environment].

When designing and making, pupils should be taught to:

|        | Statutory requirements (national curriculum)  | Stanley Grove Essentials (skills)  | Suggested activities   | Resources               |
|--------|---|--|--|-------------------------|
| Design | <ul style="list-style-type: none"> <li>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</li> <li>generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design</li> </ul> | <ul style="list-style-type: none"> <li>Draw on and use various sources of information.</li> <li>use understanding of familiar products to help develop my ideas.</li> <li>work from detailed plans, modifying where appropriate</li> <li>clarify ideas through discussion, drawing and modelling</li> <li>communicate ideas</li> </ul> | <u>Electrical</u><br>Make a product that uses a motor e.g. a fairground ride | <u>motors batteries</u> |
|        |   |  | <u>Textiles/materials</u><br>Make a product that uses a pattern piece.       |                         |
|        |   |  | <u>Food</u><br>See Welly to Belly projects.                                  |                         |

|      | Statutory requirements (National Curriculum)  | Stanley Grove Essentials(Skills)                   | Suggested Activities   | Resources |
|------|---|--|--|-----------|
| Make | <ul style="list-style-type: none"> <li>Understand and use electrical systems in their products. ( series circuits, incorporating switches, bulbs , buzzers and motors)</li> </ul> | Use a motor in a product to move wheels. Gears etc | Electrical<br>Design and make a fairground ride using a motor to provide the movement linked to an electrical circuit. |           |

|  |   |   |   |  |
|--|---|---|---|--|
|  | <ul style="list-style-type: none"> <li>Apply their understanding of computing to program, monitor and control their products</li> </ul> | To use coding software to learn how to program and control.   |   |  |
|  |   | <ul style="list-style-type: none"> <li>Experiment with a range of materials until I find the correct ones for the job (appropriate, affordability, appeal)</li> <li>Add colour and texture to my work</li> <li>mark out using own patterns and templates</li> </ul> | <u>Textiles and Materials</u><br>To make a more complicated hand pieced product | materials pattern                      |
|  |   | <ul style="list-style-type: none"> <li>Use a selection of ingredients to meet an identified need</li> <li>Work in a safe and hygienic way</li> </ul>  | <u>Food</u><br>To make a pasta or casserole                                     | Pasta<br>Utensils<br>Cooking equipment |

|          | Statutory requirements (National Curriculum)   | Stanley Grove Essentials(Skills)   | Suggested Activities   | Resources |
|----------|--|--|--|-----------|
| Evaluate | <ul style="list-style-type: none"> <li>investigate and analyse a range of existing products</li> <li>evaluate their ideas and products against their own design criteria and consider the views of others to improve their work</li> <li>understand how key events and individuals in design and technology have helped shape the world</li> </ul> | <ul style="list-style-type: none"> <li>Reflect on designs and develop them</li> <li>Identify what is working well and what can be improved</li> <li>Awareness of limited resources (budget, time availability)</li> <li>Evaluate products in light of information sources used to inform the design</li> </ul> | <ul style="list-style-type: none"> <li>understand how key events and individuals in design and technology have helped shape the world : Link ideas to Robert o. Peterson – Jack in the Box and his work or other designer</li> </ul> |           |

|                     | Statutory requirements (National Curriculum)  | Stanley Grove Essentials(Skills)   | Suggested Activities                          | Resources |
|---------------------|---|--|---|-----------|
| Technical Knowledge | <ul style="list-style-type: none"> <li>apply their understanding of how to strengthen, stiffen and reinforce more complex structures</li> </ul> | <ul style="list-style-type: none"> <li>Joins are strong and stable, giving extra strength to products</li> <li>Some joints are flexible to allow for dismantling or folding</li> <li>Hide joints for aesthetic effect</li> </ul> | As above –skills to learn to take into Year 6 |           |
|                     | <ul style="list-style-type: none"> <li>apply their understanding of computing to program, monitor and control their products</li> </ul>         | See Statutory Requirements only  | See electrical above                          |           |



# Design Technology

## Year 6

Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of designing and making. They should work in a range of relevant contexts [for example, the home, school, leisure, culture, enterprise, industry and the wider environment].

When designing and making, pupils should be taught to:

|        | Statutory requirements (National Curriculum)  | Stanley Grove Essentials(Skills)   | Suggested activities   | Resources   |
|--------|---|--|--|---|
| Design | <ul style="list-style-type: none"> <li>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</li> <li>generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design</li> </ul> | <ul style="list-style-type: none"> <li>Draw on and use various sources of information.</li> <li>use understanding of familiar products to help develop my ideas.</li> <li>work from detailed plans, modifying where appropriate</li> <li>clarify ideas through discussion, drawing and modelling</li> </ul> <p>communicate ideas</p> | <p><u>Electrical</u><br/>Make a product that uses LEDs in a circuit e.g an image where the eyes light up when the switch is pressed.</p> | <p>LEDs<br/>foil for switch<br/>pins for switch</p> |
|        |   |  | <p><u>Mechanical</u><br/>Make a product that uses Cams-for an up and down movement.</p>  | <p>cams</p>   |
|        |   |  | <p><u>Food</u><br/>make bread, jam and scones</p>  | <p>ingredients</p>                                  |

|      | Statutory requirements (National Curriculum)  | Stanley Grove Essentials(Skills)   | Suggested Activities   | Resources                |
|------|---|--|--|--------------------------|
| Make | <ul style="list-style-type: none"> <li>Understand and use electrical systems in their products (series circuits incorporating switches, bulbs, buzzers and motors</li> <li>Apply their understanding of computing to program, monitor and control their products</li> </ul> | <ul style="list-style-type: none"> <li>Use LEDs to make a circuit in a product.</li> <li>To understand that LEDs need to be the correct way around in a circuit or they won't work.</li> <li>Use coding software to program and control</li> </ul> | <p><u>Electrical</u><br/>Make a product that uses LEDs for example a character with light up eyes.</p> | <p>LEDs , foil</p>       |
|      |   |  | <p><u>Mechanical</u><br/>Make a product that uses cams e.g. a moveable toy</p>                         | <p>Cams<br/>techcard</p> |

|  |   |  |   |                             |
|--|---|--|---|-----------------------------|
|  | shaping, joining and finishing], accurately <ul style="list-style-type: none"> <li>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</li> </ul> | <ul style="list-style-type: none"> <li>Use a selection of ingredients to meet an identified need</li> <li>Work in a safe and hygienic way</li> </ul> | <b>Food</b><br><b>To make bread</b><br><b>Strawberry jam and scones</b> | bread and scone ingredients |
|--|---|--|---|-----------------------------|

|          | Statutory requirements (National Curriculum)   | Stanley Grove Essentials(Skills)  | Suggested Activities | Resources |
|----------|--|---|----------------------|-----------|
| Evaluate | <ul style="list-style-type: none"> <li>investigate and analyse a range of existing products</li> <li>evaluate their ideas and products against their own design criteria and consider the views of others to improve their work</li> <li>understand how key events and individuals in design and technology have helped shape the world</li> </ul> | <ul style="list-style-type: none"> <li>Reflect on designs and develop them</li> <li>Identify what is working well and what can be improved</li> <li>Awareness of limited resources (budget, time availability)</li> <li>Evaluate products in light of information sources used to inform the design</li> <li>understand how key events and individuals in design and technology have helped shape the world : Link ideas to a current designer</li> </ul> |                      |           |

|                     | Statutory requirements (National Curriculum)   | Stanley Grove Essentials(Skills)  | Suggested Activities   | Resources |
|---------------------|--|---|--|-----------|
| Technical Knowledge | <ul style="list-style-type: none"> <li>apply their understanding of how to strengthen, stiffen and reinforce more complex structures</li> </ul>                    | <ul style="list-style-type: none"> <li>Joins are strong and stable, giving extra strength to products</li> <li>Some joints are flexible to allow for dismantling or folding</li> <li>Hide joins for aesthetic effect</li> </ul> | As above –skills to learn to take into Year 6<br>E.g. Making a pulley system using materials to make a toy<br>Using gears on a buggy |           |
|                     | <ul style="list-style-type: none"> <li>understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages]</li> </ul> | See Statutory Requirements only   |  |           |
|                     | <ul style="list-style-type: none"> <li>apply their understanding of computing to program, monitor and control their products</li> </ul>                            | See Statutory Requirements only   | Completed through ICT curriculum   |           |