

## Subject Intent – Design and Technology

### Pupil will develop:

Significant levels of originality and the willingness to take creative risks to produce innovative ideas and prototypes.

An excellent attitude to learning and independent working.

The ability to use time efficiently and work constructively and productively with others.

The ability to carry out thorough research, show initiative and ask questions to develop an exceptionally detailed knowledge of users' needs.

The ability to act as responsible designers and makers, working ethically, using finite materials carefully and working safely.

A thorough knowledge of which tools, equipment and materials to use to make their products.

The ability to apply mathematical knowledge.

The ability to manage risks exceptionally well to manufacture products safely and hygienically.

A passion for the subject and knowledge of, up-to-date technological innovations in materials, products and systems.

### Substantive Knowledge

#### **Take inspiration from design throughout history**

This knowledge involves appreciating the design process that has influenced the products we use in everyday life.



### Disciplinary Knowledge

#### **Master practical skills**

This knowledge involves developing the skills needed to make high quality products.

#### **Design, make, evaluate and improve**

This knowledge involves developing the process of design thinking and seeing design as a process.

## Godley Primary – Approach to teaching - D & T



Stimulus



Plan



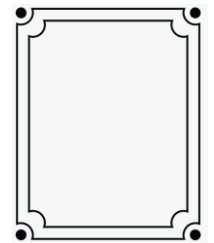
Design



Create – Produce –  
Refine – Evaluate –  
Analyse



Evaluate Final  
Product



Present Final  
Piece

Key Threshold Concepts

Master Practical Skills – Design, Make, Evaluate and Improve – Take Inspiration from Design Throughout History

## DT Approach



At Godley Academy, we intend Design and Technology to be creative and practical and provide children with the chance to problem solve and develop their own creative ideas as individuals and as part of a team. We aim to provide our children with the opportunity to use their imagination to design and make products within a variety of contexts, to provide motivation and meaning to their learning.

Key skills are taught progressively and are embedded to ensure that all pupils make progress and develop as they journey through school.

Children will be taught a range of topics including: mechanisms, textiles, construction, food technology, materials and electricals and electronics. Through hands-on, practical experiences we aim for children to leave Year 6 with some knowledge and skills of DT which will inspire children to be chefs, engineers, sculptors, carpenters, designers and architects.

Children are also taught about 'Cooking and Nutrition', exploring 'Where food comes from' as well as following a recipe to make and eat food. This knowledge forms the foundations of the Science curriculum, where pupils further explore where food comes from and plant growth. Children are given the opportunity to further explore these objectives during Healthy Week. The children understand that there are different types of food groups and understand the need for a varied diet in order to stay healthy. They are taught to be aware of how good practice with regard to exercise, keeping healthy, good sleeping habits and hygiene contribute to a healthy lifestyle. These objectives are not only covered in our Design and Technology curriculum, but are consolidated further through our PSHE scheme of learning.

## Substantive Knowledge

### Design, Make, Evaluate and Improve

EYFS

**Area of DT:** Modelling/structures

Create a new house for mouse

**Christmas Fair:** Christmas decoration using Salt Dough

**Area of DT:** Construction

Make a picture frame to showcase a picture of their grandparents (linking with History topic)

**Area of DT:** Food

Make a biscuit (using rolling/ cutters/ shape tools)

Year 1

**Area of DT:** Food

Making a biscuit following a design brief.

**Area of DT:** Structures

Constructing a windmill

**Area of DT:** Mechanics

Making a moving character linking to their story/theme.

Year 2

**Area of DT:** Textiles

Felt bauble decorations (2D)

**Area of DT:** Construction

To build a free standing structure/shelter  
Link to Everest topic

**Area of DT:** Electricals and Electronics

Battery operated lights

### Design, Make, Evaluate and Improve

Year 4

**Area of DT:** Construction

Pavilions – linking to Romans

**Area of DT:** Electricals and Electronics

Electronic board game

**Area of DT:** Textiles

Pouches

Year 3

**Area of DT:** Mechanics

Making a slingshot car

**Area of DT:** Structures

Building a strong pyramid

**Area of DT:** Food

Making a cupcake  
Adapting a recipe

### Design, Make, Evaluate and Improve

Year 5

**Area of DT:** Food

Making Jam

**Area of DT:** Structures

Bridges

**Area of DT:** Mechanics

Making a pop-up book

Year 6

**Area of DT:** Textiles

Felt bauble decorations (3D)

**Area of DT:** Digital World

Navigating the world

**Area of DT:** Electricals and Electronics

Steady hand game

Year 7

# EXCELLENCE – HAPPINESS AND NURTURE – POWERFUL LEARNING



## Key Concepts:

Subject	Disciplinary Knowledge	
	To design, make, evaluate and improve Key Indicators	To take inspiration from design throughout History Key Indicators
<b>EYFS</b>	<p>Develop their own ideas and then decide which materials to use to express them</p> <p>Explore different materials freely, in order to develop their ideas about how to use them and what to make.</p>	<p>With guided support of an adult designs of others are evaluated to identify likes and dislikes.</p> <p>When prompted, simple improvements to existing designs are suggested</p>
<b>KS1</b>	<p>Design products that have a clear purpose and an intended user.</p> <p>Make products, refining the design as work progresses</p>	<p>Explore objects and designs to identify likes and dislikes of the designs.</p> <p>Suggest improvements to existing designs.</p>
<b>Lower KS2</b>	<p>Design with purpose by identifying opportunities to design.</p> <p>Make products by working efficiently (such as by carefully selecting materials).</p> <p>Refine work and techniques as work progresses, continually evaluating the product design.</p>	<p>Identify some of the great designers in all of the areas of study (including pioneers in horticultural techniques) to generate ideas for designs.</p> <p>Improve upon existing designs, giving reasons for choices.</p>
<b>Upper KS2</b>	<p>Design with the user in mind, motivated by the service a product will offer (rather than simply for profit).</p> <p>Make products through stages of prototypes, making continual refinements.</p> <p>Ensure products have a high quality finish, using art skills where appropriate.</p>	<p>Combine elements of design from a range of inspirational designers throughout history, giving reasons for choices.</p> <p>Create innovative designs that improve upon existing products.</p>

# EXCELLENCE – HAPPINESS AND NURTURE – POWERFUL LEARNING

Year Group	Disciplinary Knowledge						
	To master techniques						
	Food	Structures	Mechanics	Textiles	Construction	Electricals and Electronics	Digital World (Year 6)
EYFS	Skills are introduced and revisited continually throughout the year. The children are encouraged to apply taught skills independently to encourage creativity and independence.						
KS1	<ul style="list-style-type: none"> <li>• Cut, peel or grate ingredients safely and hygienically.</li> <li>• Measure or weigh using measuring cups or electronic scales.</li> <li>• Assemble or cook ingredients.</li> </ul>	<ul style="list-style-type: none"> <li>• Cut materials safely using tools provided.</li> <li>• Measure and mark out to the nearest centimetre.</li> <li>• Demonstrate a range of cutting and shaping techniques (such as tearing, cutting, folding and curling).</li> <li>• Demonstrate a range of joining techniques (such as gluing, using hinges)</li> </ul>	<ul style="list-style-type: none"> <li>• Create products using levers, wheels and winding mechanisms.</li> </ul>	<ul style="list-style-type: none"> <li>• Shape textiles using templates.</li> <li>• Join textiles using running stitch.</li> <li>• Colour and decorate textiles using a number of techniques (such as dyeing, adding sequins or printing).</li> </ul>	<ul style="list-style-type: none"> <li>• Use materials to practise drilling, screwing, gluing and nailing materials to make and strengthen products.</li> </ul>	<ul style="list-style-type: none"> <li>• Diagnose faults in battery-operated devices (such as low battery, water damage or battery terminal damage).</li> </ul>	
Lower KS2	<ul style="list-style-type: none"> <li>• Prepare ingredients hygienically using appropriate utensils.</li> <li>• Measure ingredients to the nearest gram accurately.</li> <li>• Follow a recipe.</li> <li>• Assemble or cook ingredients (controlling the temperature of the oven or hob, if cooking).</li> </ul>	<ul style="list-style-type: none"> <li>• Cut materials accurately and safely by selecting appropriate tools.</li> <li>• Measure and mark out to the nearest millimetre.</li> <li>• Apply appropriate cutting and shaping techniques that include cuts within the perimeter of the material (such as slots or cut-outs).</li> <li>• Select appropriate joining techniques.</li> </ul>	<ul style="list-style-type: none"> <li>• Use scientific knowledge of the transference of forces to choose appropriate mechanisms for a product (such as levers, winding mechanisms, pulleys and gears).</li> </ul>	<ul style="list-style-type: none"> <li>• Understand the need for a seam allowance.</li> <li>• Join textiles with appropriate stitching.</li> <li>• Select the most appropriate techniques to decorate textiles.</li> </ul>	<ul style="list-style-type: none"> <li>• Choose suitable techniques to construct products or to repair items.</li> <li>• Strengthen materials using suitable techniques</li> </ul>	<ul style="list-style-type: none"> <li>• Create series and parallel circuits</li> </ul>	
Upper KS2	<ul style="list-style-type: none"> <li>• Understand the importance of correct storage and handling of ingredients (using knowledge of micro-organisms).</li> <li>• Measure accurately and calculate ratios of ingredients to scale up or down from a recipe.</li> <li>• Demonstrate a range of baking and cooking techniques.</li> <li>• Create and refine recipes, including ingredients, methods, cooking times and temperatures</li> </ul>	<ul style="list-style-type: none"> <li>• Cut materials with precision and refine the finish with appropriate tools (such as sanding wood after cutting or a more precise scissor cut after roughly cutting out a shape).</li> <li>• Show an understanding of the qualities of materials to choose appropriate tools to cut and shape (such as the nature of fabric may require sharper scissors than would be used to cut paper).</li> </ul>	<ul style="list-style-type: none"> <li>• Convert rotary motion to linear using cams.</li> <li>• Use innovative combinations of electronics (or computing) and mechanics in product designs.</li> </ul>	<ul style="list-style-type: none"> <li>• Create objects (such as a cushion) that employ a seam allowance.</li> <li>• Join textiles with a combination of stitching techniques (such as back stitch for seams and running stitch to attach decoration).</li> <li>• Use the qualities of materials to create suitable visual and tactile effects in the decoration of textiles (such as a soft decoration for comfort on a cushion)</li> </ul>		<ul style="list-style-type: none"> <li>• Create circuits using electronics kits that employ a number of components (such as LEDs, resistors, transistors and chips).</li> </ul>	<ul style="list-style-type: none"> <li>• Apply Computing principles to program functions within a product including to control and monitor it.</li> <li>• Understand how the history and evolution of product design lead to the on-going Digital revolution and the impact it is having in the world today</li> </ul>

Disciplinary Knowledge Strand	Take inspiration from design throughout history	Design, make, evaluate and improve
<b>Year Group</b>	Year group expectation	Year group expectation
EYFS	<p>With support of an adult designs of others are evaluated to identify likes and dislikes.</p> <p>When prompted, simple improvements to existing designs are suggested</p>	<p>Develop their own ideas and then decide which materials to use to express them.</p> <p>Explore different materials freely, in order to develop their ideas about how to use them and what to make.</p>
Year 1	<p>With structured activities, designs of others are evaluated to identify likes and dislikes.</p> <p>When prompted, basic improvements to existing designs are suggested.</p>	<p>When supported by a teacher, designs to meet a purpose are created</p> <p>When encouraged by a teacher, designs are improved as the making process develops</p>
Year 2	<p>With growing independence and a growing understanding of design features, likes and dislikes of the designs of others are identified.</p> <p>Suitable and appropriate improvements to existing designs are generally identified.</p>	<p>With growing independence, designs that have a clear purpose and intended user are created.</p> <p>Generally, good-quality products are made by a process of refinement during the making process.</p>
Year 3	<p>With support from a teacher, some of the most notable designers' work is examined to provide inspiration for ideas.</p> <p>With support from a teacher, existing designs are evaluated and improvements made.</p>	<p>During structured activities, opportunities for design are realised.</p> <p>When supported by a teacher, appropriate materials are selected.</p> <p>When encouraged, techniques are refined throughout a project to improve the design.</p>
Year 4	<p>A growing knowledge of a range of notable designers is used to provide inspiration for designs.</p> <p>Generally, some opportunities for improving existing designs are made, giving reasons for choices.</p>	<p>Generally, there is a good understanding of opportunities for design.</p> <p>Planning of workflows and careful selection of materials means work is generally carried out efficiently.</p> <p>Generally, designs are evaluated and refined throughout a project.</p>
Year 5	<p>With support, elements of design from notable designers are incorporated into designs.</p> <p>There are some good examples of designs that improve upon existing products.</p> <p>When reminded, evaluations are carried out throughout and at the end of the design process.</p>	<p>With guidance, products are designed with some reference to the user experience.</p> <p>With support, prototypes are made and later developed.</p> <p>When reminded, a high-quality finish is achieved by applying art skills.</p>
Year 6	<p>Generally, there are some well reasoned choices for combining elements from a range of designers.</p> <p>There is a growing range of examples of designs that improve upon existing products.</p> <p>Evaluations are generally ongoing and thorough. They relate to the user experience.</p>	<p>Generally, the user experience is used as a rationale for design choices.</p> <p>Generally improvements are continual throughout the making process, with initial prototypes often changed radically through a number of refinements.</p> <p>Art skills are generally applied and, along with attention to detail, create a high-quality finish.</p>

Disciplinary Knowledge Strand	Food	Structures	Mechanics
<b>Year Group</b>	Year group expectation	Year group expectation	Year group expectation
<b>EYFS</b>	Use knives and shape tools with malleable materials.. Roll malleable materials into different shapes and sizes. Begin to select tools need to add detail or change shape of model.	Use different materials to create a house structure Select different resources and materials to achieve a desired effect. Use tools confidently and safely. Use a wide range of uncut resources.	
<b>Year 1</b>	With the support of a teacher, ingredients are prepared safely and hygienically With the support of a teacher, weighing and measuring is accurate.	When supported by a teacher, maths skills are sometimes used to help measure and mark to the nearest centimetre. With the support of teacher, materials are cut safely. During structured activities, a range of cutting and shaping techniques are used.	With the support of a teacher, products using levers and winding mechanisms are made.
<b>Year 3</b>	When reminded, appropriate utensils are chosen to safely and hygienically prepare food.  With support from a teacher, accurate measurement, to the nearest gram, is experienced.	When reminded, appropriate tools are chosen to safely cut materials. With support from a teacher, accurate measurement and marking, to the nearest millimetre, is experienced. With support from a teacher, appropriate techniques are used to cut and shape materials.	When reminded, knowledge of science is applied to creating mechanism products..
<b>Year 5</b>	There is some awareness of the principles and practices of safe food storage and handling.  When reminded, mathematical knowledge is applied to accurately calculate ratios of ingredients.  When guided, a range of baking and cooking techniques is demonstrated. With support from a teacher, a range of recipes are created.	There are some good examples of precision cutting.  When reminded, the qualities of materials are considered when selecting tools.	When reminded, knowledge of science is applied to creating mechanism products..  With support, cams are created.

Disciplinary Knowledge Strand	Textiles	Construction	Electricals and electronics
<b>Year Group</b>	Year group expectation	Year group expectation	Year group expectation
EYFS		<p>With support, select tools needed to shape, attach or add greater detail to models.</p> <p>With support, select resources needed from a wide selection.</p> <p>With the support of a teacher, materials are combined to make products.</p>	
<b>Year 2</b>	<p>With the support of a teacher, textiles are shaped using templates.</p> <p>With the support of a teacher, textiles are joined with a basic running stitch.</p> <p>With the support of a teacher, a number of decoration techniques are experienced.</p>	<p>With the support of a teacher, materials are combined to make products.</p>	<p>With the support of a teacher, a range of common faults are identified.</p>
<b>Year 4</b>	<p>When demonstrated by a teacher, and support provided, appropriate allowances are made when joining fabrics.</p> <p>When demonstrated by a teacher, appropriate stitching is attempted with some good effects.</p> <p>When reminded, appropriate techniques are used to decorate textiles.</p>	<p>With the support of a teacher, a range of common faults are identified.</p>	<p>When reminded, knowledge of science is applied to create series and parallel circuits in products.</p>
<b>Year 6</b>	<p>There are some good examples of effective joins.</p> <p>There are some good examples of art skills being used to provide decoration.</p>	<p>Digital world</p> <p>An understanding of Considering materials and their functional properties, especially those that are sustainable and recyclable</p>	<p>A growing range of practical skills are used effectively to make or repair products.</p>

# DT – Disciplinary Knowledge

Subject	DT					
	Structures	Textiles	Mechanics	Construction	Food	Electronics and electricals
EYFS	Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function; - Share their creations, explaining the process they have used; - Make use of props and materials when role playing characters in narratives and stories.				<ul style="list-style-type: none"> <li>• Cuts with increasing control.</li> <li>• Cut, tear and scrunch paper.</li> <li>• Begin to select from a range of materials and resources.</li> </ul>	<ul style="list-style-type: none"> <li>• Chop, stir, crumble and spread ingredients safely and hygienically</li> <li>• To follow a set of instructions with support of an adult</li> <li>• Assemble ingredients</li> </ul>
Year 1	<ul style="list-style-type: none"> <li>• Cut materials safely using tools provided.</li> <li>• Measure and mark out to the nearest centimetre.</li> <li>• Demonstrate a range of cutting and shaping techniques (such as tearing, cutting, folding and curling).</li> <li>• Demonstrate a range of joining techniques (such as gluing, using hinges or combining materials to strengthen).</li> </ul>		Create products using levers, wheels and winding mechanisms.		<ul style="list-style-type: none"> <li>• Cut, peel or grate ingredients safely and hygienically.</li> <li>• Measure or weigh using measuring cups or electronic scales.</li> <li>• Assemble or cook ingredients.</li> </ul>	
Year 2		<ul style="list-style-type: none"> <li>• Shape textiles using templates.</li> <li>• Join textiles using running stitch.</li> <li>• Colour and decorate textiles using a number of techniques (such as dyeing, adding sequins or printing).</li> </ul>		Use materials to practise drilling, screwing, gluing and nailing materials to make and strengthen products.		<ul style="list-style-type: none"> <li>• Understand the importance of correct storage and handling of ingredients (using knowledge of micro-organisms).</li> <li>• Measure accurately and calculate ratios of ingredients to scale up or down from a recipe.</li> <li>• Demonstrate a range of baking and cooking techniques.</li> <li>• Create and refine recipes, including ingredients, methods, cooking times and temperatures</li> </ul>
Year 3	<ul style="list-style-type: none"> <li>• Cut materials accurately and safely by selecting appropriate tools.</li> <li>• Measure and mark out to the nearest millimetre.</li> <li>• Apply appropriate cutting and shaping techniques that include cuts within the perimeter of the material (such as slots or cut-outs).</li> <li>• Select appropriate joining techniques.</li> </ul>		Use scientific knowledge of the transference of forces to choose appropriate mechanisms for a product (such as levers, winding mechanisms, pulleys and gears).		<ul style="list-style-type: none"> <li>• Prepare ingredients hygienically using appropriate utensils.</li> <li>• Measure ingredients to the nearest gram accurately.</li> <li>• Follow a recipe.</li> <li>• Assemble or cook ingredients (controlling the temperature of the oven or hob, if cooking).</li> </ul>	
Year 4		<ul style="list-style-type: none"> <li>• Understand the need for a seam allowance.</li> <li>• Join textiles with appropriate stitching.</li> <li>• Select the most appropriate techniques to decorate textiles.</li> </ul>		<ul style="list-style-type: none"> <li>• Choose suitable techniques to construct products or to repair items.</li> <li>• Strengthen materials using suitable techniques</li> </ul>		Create series and parallel circuits
Year 5	<ul style="list-style-type: none"> <li>• Cut materials with precision and refine the finish with appropriate tools (such as sanding wood after cutting or a more precise scissor cut after roughly cutting out a shape).</li> <li>• Show an understanding of the qualities of materials to choose appropriate tools to cut and shape (such as the nature of fabric may require sharper scissors than would be used to cut paper).</li> </ul>		<ul style="list-style-type: none"> <li>• Convert rotary motion to linear using cams.</li> <li>• Use innovative combinations of electronics (or computing) and mechanics in product designs.</li> </ul>		<ul style="list-style-type: none"> <li>• Understand the importance of correct storage and handling of ingredients (using knowledge of micro-organisms).</li> <li>• Measure accurately and calculate ratios of ingredients to scale up or down from a recipe.</li> <li>• Demonstrate a range of baking and cooking techniques.</li> <li>• Create and refine recipes, including ingredients, methods, cooking times and temperatures</li> </ul>	
Year 6		<ul style="list-style-type: none"> <li>• Create objects (such as a cushion) that employ a seam allowance.</li> <li>• Join textiles with a combination of stitching techniques (such as back stitch for seams and running stitch to attach decoration).</li> <li>• Use the qualities of materials to create suitable visual and tactile effects in the decoration of textiles (such as a soft decoration for comfort on a cushion)</li> </ul>		Develop a range of practical skills to create products (such as cutting, drilling and screwing, nailing, gluing, filling and sanding).		Create circuits using electronics kits that employ a number of components (such as LEDs, resistors, transistors and chips).

## DT – Skills Knowledge – Nursery

<b>Subject</b>	<b>DT</b>
<b>Strands</b>	<b>ARE</b>
<b>Design, make, evaluate and improve</b>	Develop their own ideas and then decide which materials to use to express them.
	Explore different materials freely, in order to develop their ideas about how to use them and what to make.
<b>Take inspiration from design throughout history</b>	With guided support of an adult designs of others are evaluated to identify likes and dislikes.
	When prompted, very simple improvements to existing designs are suggested

<b>Subject</b>		<b>DT</b>		
<b>Strands</b>	<b>Autumn</b>	<b>Spring</b>	<b>Summer-</b>	
<b>To master techniques</b>  <b>Collage, modelling and imaginary play</b>	Explore different materials freely, in order to develop their ideas about how to use them and what to make. Take part in simple pretend play, using an object to represent something else even though they are not similar.	Develop their own ideas and then decide which materials to use to express them. Begin to develop complex stories using small world equipment like animal sets, dolls and dolls houses etc.	Join different materials and explore different textures. Make imaginative and complex 'small worlds' with blocks and construction kits, such as a city with different buildings and a park.	
<b>To master techniques</b>  <b>Fine motor skills</b>	Use one-handed tools and equipment, for example, making snips in paper with scissors with support. Makes marks with different resources independently eg. Stick, paintbrush, fingers.	Show a preference for a dominant hand. Uses one handed tools with greater control.	Uses one handed tools independently. Use a comfortable grip with good control when holding pens and pencils.	
<b>Equipment</b>	Thick paintbrushes Chunky crayons Chalk	Triangular pencils/crayons Scissors Glue	Pre cut materials Boxes/junk Sellotape	

# DT – Skills Knowledge – Reception

<b>Subject</b>		<b>DT</b>		
<b>Strands</b>		<b>ARE</b>		
<b>Design, make, evaluate and improve</b>		Develop their own ideas and then decide which materials to use to express them.		
		Explore different materials freely, in order to develop their ideas about how to use them and what to make.		
<b>Take inspiration from design throughout history</b>		With support of an adult designs of others are evaluated to identify likes and dislikes.		
		When prompted, simple improvements to existing designs are suggested		
<b>Subject</b>		<b>DT</b>		
<b>Strands</b>	<b>Autumn</b>	<b>Spring</b>	<b>Summer</b>	
<b>To master techniques</b>  <b>Collage</b>	Cut with support. Use glue stick to attach. Use sellotape to attach with support. Use pre-cut materials.	Cuts with increasing control. Cut, tear and scrunch paper. Begin to select from a range of materials and resources.	Select different resources and materials to achieve a desired effect. Have free choice of outcome. Combine resources.	
<b>To master techniques</b>  <b>Modelling</b>	Roll, flatten and pinch malleable materials. Use cutter with malleable materials. Use a rolling pin. Begin to add detail to models.	Use knives and shape tools with malleable materials.. Roll malleable materials into different shapes and sizes. Begin to use junk to create simple models. Begin to select tools need to add detail or change shape of model.	Create representations of people, objects and animals. Select tools needed to shape, attach or add greater detail to models. Select resources needed from a wide selection.	

<p><b>To master techniques</b></p> <p><b>Fine motor skills</b></p>	<p>Use scissors with help. Use a glue stick. Make circles, lines, zigzags and waves with writing materials. Cuts straight lines and curves independently.</p>	<p>Cuts more complex shapes such as zigzags and wavy lines. Uses sellotape independently.</p>	<p>Use scissors with care and control. Select and use a range of tools effectively, safely and independently.</p>
<p><b>Equipment</b></p>	<p>Scissors Glue stick Chunky paintbrushes Thick/triangular crayons/pencils Stampers Malleable materials eg. Playdough/clay</p>	<p>Sellotape PVA glue and spreaders Thinner paintbrushes Small stampers Stapler Colour pallets</p>	<p>Paint pumps Hole punch String Fasteners – split pins/treasury tags Range of paintbrushes</p>
<p><b>Key developments ongoing throughout the year</b></p>	<p>Explore, use and refine a variety of artistic effects to express feelings and ideas. Return to and build on previous learning, refining ideas and developing ability to represent them. Create collaboratively, sharing ideas resources and skills. Develop storylines in their pretend play.</p>		

# Year 1 Substantive Knowledge

Subject	DT – Year 1	
	<b>Making a biscuit following a design brief</b>	<b>Vocabulary</b>
<p><b>Autumn</b></p> <p><b>Food</b></p>	<ul style="list-style-type: none"> <li>• To know that the amount of an ingredient in a recipe is known as the ‘quantity.’</li> <li>• To know that it is important to use oven gloves when removing hot food from an oven.</li> <li>• To know safety rules for using, storing and cleaning a knife safely.</li> <li>• To know that nutrients are substances in food that all living things need to make energy, grow and develop.</li> <li>• To know that ‘ingredients’ means the items in a mixture or recipe</li> </ul>	<ul style="list-style-type: none"> <li>• Equipment Flavour • Ingredients • Method Quantity • Recipe Sieving Healthy • Nutrients</li> <li>• Portion</li> </ul>
	<b>Constructing a windmill</b>	<b>Vocabulary</b>
<p><b>Spring</b></p> <p><b>Structures</b></p>	<ul style="list-style-type: none"> <li>• To know that a client is the person I am designing for.</li> <li>• To know that design criteria is a list of points to ensure the product meets the clients needs and wants.</li> <li>• To know that a windmill harnesses the power of wind for a purpose like grinding grain, pumping water or generating electricity.</li> <li>• To know that windmill turbines use wind to turn and make the machines inside work.</li> <li>• To know that a windmill is a structure with sails that are moved by the wind.</li> <li>• To know the three main parts of a windmill are the turbine, axle and structure</li> </ul>	<ul style="list-style-type: none"> <li>• Client • Design • Evaluation • Net • Stable • Strong • Test • Weak • Windmill</li> <li>• Tools Join</li> </ul>
	<b>Making a moving character linking to their story/theme</b>	<b>Vocabulary</b>
<p><b>Summer</b></p> <p><b>Mechanics</b></p>	<ul style="list-style-type: none"> <li>• To know that a mechanism is the parts of an object that move together.</li> <li>• To know that a slider mechanism moves an object from side to side.</li> <li>• To know that a slider mechanism has a slider, slots, guides and an object.</li> <li>• To know that bridges and guides are bits of card that purposefully restrict the movement of the slider.</li> <li>• To know that in Design and technology we call a plan a ‘design’.</li> </ul>	<ul style="list-style-type: none"> <li>Assemble • Design • Evaluation • Mechanism • Model • Sliders • Stencil • Target audience • Template • Test</li> </ul>



# Year 1 Disciplinary Knowledge

Subject	DT	
Strands	ARE	Greater Depth
<b>To design, make, evaluate and improve.</b>	When supported by a teacher, designs to meet a purpose are created.	When encouraged by a teacher, designs are improved as the making process develops.
	When encouraged by a teacher, designs are improved as the making process develops.	Generally, good-quality products are made by a process of refinement during the making process.
<b>To take inspiration from design throughout history</b>	With structured activities, designs of others are evaluated to identify likes and dislikes.	With growing independence and a growing understanding of design features, likes and dislikes of the designs of others are identified.
	When prompted, basic improvements to existing designs are suggested.	Suitable and appropriate improvements to existing designs are generally identified.
<b>To master practical skills</b> <b>Mechanics</b>	With the support of a teacher, products using levers and winding mechanisms are made.	With growing independence, and a developing understanding of mechanisms, products using levers and winding mechanisms are made

<b>To master practical skills</b> <b>Structures</b>	With growing independence, and a developing understanding of mechanisms, products using levers and winding mechanisms are made	There is a growing ability to cut materials safely.
	When supported by a teacher, maths skills are sometimes used to help measure and mark to the nearest centimetre.	Maths skills are often used to help measure and mark to nearest centimetre.
	During structured activities, a range of cutting and shaping techniques are used.	There is a growing use of range of cutting and shaping techniques.
<b>To master practical skills</b> <b>Food</b>	With the support of a teacher, ingredients are prepared safely and hygienically.	There is a growing awareness of safety and hygiene procedures when preparing food.
	With the support of a teacher, weighing and measuring is accurate.	There is a growing ability to weigh and measure accurately.

# Year 2 Substantive Knowledge

Subject	DT – Year 2	
	<b>Felt bauble decorations (2D)</b>	<b>Vocabulary</b>
<p><b>Autumn</b></p> <p><b>Textiles</b></p>	<ul style="list-style-type: none"> <li>• To know that ‘joining technique’ means connecting two pieces of material together.</li> <li>• To know that there are various temporary methods of joining fabric by using staples, glue or pins.</li> <li>• To understand that a template (or fabric pattern) is used to cut out the same shape multiple times.</li> <li>• To know that drawing a design idea is useful to see how an idea will look</li> <li>• To know that different stitches can be used when sewing.</li> <li>• To understand the importance of tying a knot after sewing the final stitch.</li> <li>• To know that a thimble can be used to protect my fingers when sewing.</li> </ul>	<ul style="list-style-type: none"> <li>• Decorate</li> <li>• Design</li> <li>• Fabric</li> <li>• Glue</li> <li>• Model</li> <li>• Safety pin</li> <li>• Staple</li> <li>• Stencil</li> <li>• Template</li> <li>• Running-stitch</li> <li>• Sew</li> </ul>
	<b>To build a free standing structure/shelter Link to Everest topic</b>	<b>Vocabulary</b>
<p><b>Spring</b></p> <p><b>Construction</b></p>	<ul style="list-style-type: none"> <li>• To know that shapes and structures with wide, flat bases or legs are the most stable.</li> <li>• To understand that the shape of a structure affects its strength.</li> <li>• To know that materials can be manipulated to improve strength and stiffness.</li> <li>• To know that a structure is something which has been formed or made from parts.</li> <li>• To know that a ‘stable’ structure is one which is firmly fixed and unlikely to change or move.</li> <li>• To know that a ‘strong’ structure is one which does not break easily.</li> <li>• To know that a ‘stiff’ structure or material is one which does not bend easily</li> </ul>	<ul style="list-style-type: none"> <li>• Function</li> <li>• Man-made</li> <li>• Mould</li> <li>• Natural</li> <li>• Stable</li> <li>• Stiff</li> <li>• Strong</li> <li>• Structure</li> <li>• Test</li> <li>• Weak</li> </ul>
	<b>Battery operated lights</b>	<b>Vocabulary</b>
<p><b>Summer</b></p> <p><b>Electricals and Electronics</b></p>	<ul style="list-style-type: none"> <li>• Name some key events and individuals that have helped shape the world of lighting.</li> <li>• Explore and make a series and parallel circuit, diagnosing faults when necessary, and follow instructions to make a selection of different switches.</li> <li>• Draw a design which uses annotations to add some detail.</li> <li>• Develop design criteria to inform the design of innovative products considering the purpose and target group/individual.</li> <li>• Make a well finished product considering the aesthetic and functional qualities.</li> <li>• Use design criteria to help develop their own questions and use the answers to help guide the evaluation process</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Bulb</b></li> <li>• Battery</li> <li>• Electrical system</li> <li>• Switch</li> <li>• Lamp</li> <li>• Insulator</li> <li>• Conductor</li> <li>• Circuit</li> <li>• design</li> </ul>



# Year 2 Disciplinary Knowledge

Subject	DT	
Strands	ARE	Greater Depth
<b>To design, make, evaluate and improve.</b>	With growing independence, designs that have a clear purpose and intended user are created.	With a high level of independence and a good understanding that designs require a purpose and user, very good designs are created.
	Generally, good-quality products are made by a process of refinement during the making process	High-quality products are made through a process of constant refinement throughout the making process
<b>To take inspiration from design throughout history</b>	With structured activities, designs of others are evaluated to identify likes and dislikes.	Suitable and appropriate improvements to existing designs are generally identified.
	When prompted, basic improvements to existing designs are suggested.	Thoughtful and well-reasoned improvements to existing designs are identified.
<b>To master practical skills</b> <b>Construction</b>	With the support of a teacher, materials are combined to make products.	With growing independence, materials are combined to make products.
<b>To master practical skills</b> <b>Textiles</b>	With the support of a teacher, textiles are shaped using templates.	Templates are beginning to be created and used to shape textiles.
	With the support of a teacher, textiles are joined with a basic running stitch.	A basic running stitch is used well to join textiles.
	With the support of a teacher, a number of decoration techniques are experienced.	A growing number of decoration techniques are used.
<b>To master practical skills</b> <b>Electricals and Electronics</b>	With the support of a teacher, a range of common faults are identified.	A growing range of faults are correctly identified.

# Year 3 Substantive Knowledge

Subject		DT – Year 3	
		<b>Making a cupcake - Adapting a recipe</b>	<b>Vocabulary</b>
<b>Autumn</b>	<b>Food</b>	<ul style="list-style-type: none"> <li>• To know that the amount of an ingredient in a recipe is known as the 'quantity.'</li> <li>• To know that it is important to use oven gloves when removing hot food from an oven.</li> <li>• To know the following cooking techniques: sieving, creaming, rubbing method, cooling.</li> <li>• To understand the importance of budgeting while planning ingredients for the cake</li> </ul>	<ul style="list-style-type: none"> <li>• Adapt</li> <li>• Budget</li> <li>• Cooling rack</li> <li>• Creaming</li> <li>• Equipment</li> <li>• Evaluation</li> <li>• Flavour</li> <li>• Ingredients</li> <li>• Method</li> <li>• Net</li> <li>• Packaging</li> <li>• Prototype</li> <li>• Quantity</li> <li>• Recipe</li> <li>• Rubbing</li> <li>• Sieving</li> <li>• Target audience</li> <li>• Unit of measurement</li> <li>• Utilities</li> </ul>
		<b>Building a strong pyramid</b>	<b>Vocabulary</b>
<b>Spring</b>	<b>Structures</b>	<ul style="list-style-type: none"> <li>• To understand that wide and flat based objects are more stable.</li> <li>• To understand the importance of strength and stiffness in structures.</li> <li>• To know that a façade is the front of a structure.</li> <li>• To know that a paper net is a flat 2D shape that can become a 3D shape once assembled.</li> <li>• To know that a design specification is a list of success criteria for a product</li> </ul>	<ul style="list-style-type: none"> <li>• 2D shapes</li> <li>• 3D shapes</li> <li>• Pyramid</li> <li>• Design criteria</li> <li>• Evaluate</li> <li>• Facade</li> <li>• Feature</li> <li>• Net</li> <li>• Recyclable</li> <li>• Scoring</li> <li>• Stable</li> <li>• Strong</li> <li>• Structure</li> <li>• Tab</li> <li>• Weak</li> </ul>
		<b>Making a slingshot car</b>	<b>Vocabulary</b>
<b>Summer</b>	<b>Mechanics</b>	<ul style="list-style-type: none"> <li>• To understand that all moving things have kinetic energy.</li> <li>• To understand that kinetic energy is the energy that something (object/person) has by being in motion.</li> <li>• To know that air resistance is the level of drag on an object as it is forced through the air.</li> <li>• To understand that the shape of a moving object will affect how it moves due to air resistance.</li> <li>• To understand that products change and evolve over time.</li> <li>• To know that aesthetics means how an object or product looks in design and technology.</li> <li>• To know that a template is a stencil you can use to help you draw the same shape accurately.</li> <li>• To know that a birds-eye view means a view from a high angle (as if a bird in flight).</li> <li>• To know that graphics are images which are designed to explain or advertise something.</li> <li>• To know that it is important to assess and evaluate design ideas and models against a list of design criteria.</li> </ul>	<ul style="list-style-type: none"> <li>• Aesthetic</li> <li>• Air resistance</li> <li>• Chassis</li> <li>• Design</li> <li>• Design criteria</li> <li>• Function</li> <li>• Graphics</li> <li>• Kinetic energy</li> <li>• Mechanism</li> <li>• Net</li> <li>• Structure</li> </ul>



# Year 3 Disciplinary Knowledge

Subject	DT	
Strands	ARE	Greater Depth
<b>To design, make, evaluate and improve.</b>	During structured activities, opportunities for design are realised.	Generally, there is a good understanding of opportunities for design.
	When supported by a teacher, appropriate materials are selected	Planning of workflows and careful selection of materials means work is generally carried out efficiently.
<b>To take inspiration from design throughout history</b>	When encouraged, techniques are refined throughout a project to improve the design.	Generally, designs are evaluated and refined throughout a project.
	With support from a teacher, some of the most notable designers' work is examined to provide inspiration for ideas.	A growing knowledge of a range of notable designers is used to provide inspiration for designs.
	With support from a teacher, existing designs are evaluated and improvements made.	Generally, some opportunities for improving existing designs are made, giving reasons for choices
<b>To master practical skills</b> <b>Mechanics</b>	When reminded, knowledge of science is applied to creating mechanism products..	Generally, knowledge of science is applied to creating mechanism products.
<b>To master practical skills</b> <b>Structures</b>	When reminded, appropriate tools are chosen to safely cut materials.	With support from a teacher, appropriate techniques are used to cut and shape materials.
	With support from a teacher, accurate measurement and marking, to the nearest millimetre, is experienced.	There is accurate measurement and marking to the nearest millimetre using a variety of scales.
	With support from a teacher, appropriate techniques are used to cut and shape materials.	Appropriate techniques are generally chosen to cut and shape materials.
	When reminded, appropriate joining techniques are used.	Appropriate joining techniques are generally selected and used well.
<b>To master practical skills</b> <b>Food</b>	When reminded, appropriate utensils are chosen to safely and hygienically prepare food	Appropriate utensils are generally chosen to safely and hygienically prepare food.
	With support from a teacher, accurate measurement, to the nearest gram, is experienced.	There is generally accurate measurement to the nearest gram.

# Year 4 Substantive Knowledge

Subject	DT – Year 4	
	<b>Pouches</b>	<b>Vocabulary</b>
<b>Autumn</b>  <b>Textiles</b>	<ul style="list-style-type: none"> <li>• To know that when two edges of fabric have been joined together it is called a seam. • To know that it is important to leave space on the fabric for the seam. • To understand that some products are turned inside out after sewing so the stitching is hidden. • To know that creating a mock up (prototype) of their design is useful for checking ideas and proportions.</li> <li>• To know that different fastening types are useful for different purposes</li> </ul>	<ul style="list-style-type: none"> <li>• Accurate • Fabric • Knot • Pouch • Running-stitch • Sew • Shape • Stencil • Template • Thimble</li> </ul>
	<b>Electronic board game</b>	<b>Vocabulary</b>
<b>Spring</b>  <b>Electricals and Electronics</b>	<ul style="list-style-type: none"> <li>• To understand that an electrical system is a group of parts (components) that work together to transport electricity around a circuit. • To understand common features of an electric product (switch, battery or plug, dials, buttons etc.). • To list examples of common electric products (kettle, remote control etc.). • To understand that an electric product uses an electrical system to work (function). • To know the name and appearance of a bulb, battery, battery holder and crocodile wire to build simple circuits. • To understand the importance and purpose of information design. • To understand how material choices (such as mounting paper to corrugated card) can improve a product to serve its purpose (remain rigid without bending when the electrical circuit is attached).</li> </ul>	<ul style="list-style-type: none"> <li>Battery • Bulb • Buzzer • Cell • Component • Conductor • Copper • Design criteria • Electrical item • Electricity • Electronic item • Function • Insulator • Series circuit • Switch • Test • • • Crocodile wires • Electrical product • Electrical system • Final design • Information design • Initial ideas • Peer assessment • Research • Self assessment • Sketch</li> </ul>
	<b>Pavilions – linking to Roman topic</b>	<b>Vocabulary</b>
<b>Summer</b>  <b>Construction</b>	<ul style="list-style-type: none"> <li>• To know that a pavilion is a decorative building or structure for leisure activities. • To know that cladding can be applied to structures for different effects. • To know that aesthetics are how a product looks. • To know that a product's function means its purpose. • To understand that the target audience means the person or group of people a product is designed for. • To know that architects consider light, shadow and patterns when designing.</li> </ul>	<ul style="list-style-type: none"> <li>Aesthetic • Cladding • Design criteria • Evaluation • Frame structure • Function • Inspiration • Pavilion • Reinforce • Stable • Structure • Target audience • Target customer • Texture • Theme</li> </ul>



# Year 4 Disciplinary Knowledge

Subject	DT	
Strands	ARE	Greater Depth
<b>To design, make, evaluate and improve.</b>	During structured activities, opportunities for design are realised.	Generally, there is a good understanding of opportunities for design.
	When supported by a teacher, appropriate materials are selected.	Planning of workflows and careful selection of materials means work is generally carried out efficiently.
	When supported by a teacher, appropriate materials are selected.	Generally, designs are evaluated and refined throughout a project.
<b>To take inspiration from design throughout history</b>	With support from a teacher, some of the most notable designers' work is examined to provide inspiration for ideas.	With support from a teacher, some of the most notable designers' work is examined to provide inspiration for ideas.
	With support from a teacher, existing designs are evaluated and improvements made.	Generally, some opportunities for improving existing designs are made, giving reasons for choices.
<b>To master practical skills</b> <b>Construction</b>	When reminded, knowledge of science is applied to create series and parallel circuits in products.	Generally, science knowledge is applied well to create series and parallel circuits in products.
<b>To master practical skills</b> <b>Textiles</b>	When demonstrated by a teacher, and support provided, appropriate allowances are made when joining fabrics.	Generally, appropriate allowances for joining fabrics are used.
	When demonstrated by a teacher, appropriate stitching is attempted with some good effects.	Generally, stitching is appropriate to the product and effective.
	When reminded, appropriate techniques are used to decorate textiles.	Generally, interesting and appropriate techniques are used to decorate textiles.
<b>To master practical skills</b> <b>Electricals and Electronics</b>	When reminded, knowledge of science is applied to create series and parallel circuits in products.	Generally, science knowledge is applied well to create series and parallel circuits in products.

# Year 5 Substantive Knowledge

Subject	DT – Year 5	
	<p style="text-align: center;"><b>Making jam/savoury treat for the fair</b></p> <p style="text-align: center;"><b>Note: a short piece of work to focus on the ‘farm to fork’ movement and key welfare movement to be undertaken</b></p>	<b>Vocabulary</b>
<p><b>Autumn</b></p> <p><b>Food</b></p>	<ul style="list-style-type: none"> <li>• To know that the amount of an ingredient in a recipe is known as the ‘quantity.’</li> <li>• To understand the importance of budgeting while planning ingredients</li> <li>• To know that not all fruits and vegetables can be grown in the UK.</li> <li>• To know that climate affects food growth.</li> <li>• To know that vegetables and fruit grow in certain seasons.</li> <li>• To know that imported food is food which has been brought into the country.</li> <li>• To know that exported food is food which has been sent to another country..</li> <li>• To understand that imported foods travel from far away and this can negatively impact the environment.</li> <li>• To know that each fruit and vegetable gives us nutritional benefits because they contain vitamins, minerals and fibre</li> <li>• To know that similar coloured fruits and vegetables often have similar nutritional benefits.</li> <li>• To understand that it is important to wash fruit and vegetables before eating to remove any dirt and insecticides.</li> <li>• To understand what happens to a certain food before it appears on the supermarket shelf (Farm to Fork).</li> </ul>	<ul style="list-style-type: none"> <li>• Ethical issues</li> <li>• Farm</li> <li>• Healthy</li> <li>• Ingredients</li> <li>• Method</li> <li>• Nutrients</li> <li>• Packaging</li> <li>• Reared</li> <li>• Recipe</li> <li>• Research Supermarket</li> <li>• Vegan</li> <li>• Vegetarian</li> <li>• Welfare</li> <li>• Target audience</li> <li>• Unit of measurement</li> <li>• Utilities</li> </ul>
	<b>Bridges</b>	<b>Vocabulary</b>
<p><b>Spring</b></p> <p><b>Structures</b></p>	<ul style="list-style-type: none"> <li>• To understand some different ways to reinforce structures.</li> <li>• To understand how triangles can be used to reinforce bridges.</li> <li>• To know that properties are words that describe the form and function of materials.</li> <li>• To understand why material selection is important based on properties.</li> <li>• To understand the material (functional and aesthetic) properties of wood.</li> <li>• To understand the difference between arch, beam, truss and suspension bridges.</li> <li>• To understand how to carry and use a saw safely</li> </ul>	<ul style="list-style-type: none"> <li>• Abutment</li> <li>• Accurate</li> <li>• Arched bridge</li> <li>• Beam bridge</li> <li>• Coping saw</li> <li>• Evaluation</li> <li>• File</li> <li>• Mark out</li> <li>• Material properties</li> <li>• Measure</li> <li>• Predict</li> <li>• Reinforce</li> <li>• Research</li> <li>• Sandpaper</li> <li>• Set square</li> <li>• Suspension bridge</li> <li>• Tenon saw</li> <li>• Test</li> <li>• Truss bridge</li> <li>• Wood</li> </ul>
	<b>Making a pop-up book</b>	<b>Vocabulary</b>
<p><b>Summer</b></p> <p><b>Mechanics</b></p>	<ul style="list-style-type: none"> <li>• To know that mechanisms control movement.</li> <li>• To understand that mechanisms can be used to change one kind of motion into another.</li> <li>• To understand how to use sliders, pivots and folds to create paper-based mechanisms.</li> <li>• To know that a design brief is a description of what I am going to design and make.</li> <li>• To know that designers often want to hide mechanisms to make a product more aesthetically pleasing.</li> </ul>	<ul style="list-style-type: none"> <li>• Aesthetic</li> <li>• Computer-aided design (CAD)</li> <li>• Caption</li> <li>• Design</li> <li>• Design brief</li> <li>• Design criteria</li> <li>• Exploded-diagram</li> <li>• Function</li> <li>• Input</li> <li>• Linkage</li> <li>• Mechanism</li> <li>• Motion</li> <li>• Output</li> <li>• Pivot</li> <li>• Prototype</li> <li>• Slider</li> <li>• Structure</li> <li>• Template</li> </ul>



# Year 5 Disciplinary Knowledge

Subject	DT	
Strands	ARE	Greater Depth
<b>To design, make, evaluate and improve.</b>	With guidance, products are designed with some reference to the user experience.	Generally, the user experience is used as a rationale for design choices.
	With support, prototypes are made and later developed.	Generally improvements are continual throughout the making process, with initial prototypes often changed radically through a number of refinements.
	When reminded, a high-quality finish is achieved by applying art skills.	Art skills are generally applied and, along with attention to detail, create a high-quality finish.
<b>To take inspiration from design throughout history</b>	With support, elements of design from notable designers are incorporated into designs.	Generally, there are some well reasoned choices for combining elements from a range of designers.
	There are some good examples of designs that improve upon existing products.  When reminded, evaluations are carried out throughout and at the end of the design process.	There is a growing range of examples of designs that improve upon existing products.  Evaluations are generally ongoing and thorough. They relate to the user experience.
<b>To master practical skills</b>  <b>Mechanics</b>	With support, cams are created.  With support, combinations of design components are used in product designs.	There is some interesting experimentation with combinations of design components in product designs.  A range of differently shaped cams are created.
<b>To master practical skills</b>  <b>Structures</b>	There are some good examples of precision cutting.	There are many good examples of precision cutting using a growing range of cutting implements.
	When reminded, the qualities of materials are considered when selecting tools.	The properties of materials are generally considered in choosing tools.
<b>To master practical skills</b>  <b>Food</b>	There is some awareness of the principles and practices of safe food storage and handling.	Science knowledge is applied to the safe storage and handling of ingredients.
	When reminded, mathematical knowledge is applied to accurately calculate ratios of ingredients.	Mathematical knowledge is generally applied to calculate ratios of ingredients.
	When guided, a range of baking and cooking techniques is demonstrated.  With support from a teacher, a range of recipes are created.	A developing range of baking and cooking techniques is demonstrated.  A developing range of interesting recipes is created.

# Year 6 Substantive Knowledge

Subject		DT – Year 6	
		<b>Felt bauble decorations (3D)</b>	<b>Vocabulary</b>
<b>Autumn</b> <b>Textiles</b>	<ul style="list-style-type: none"> <li>To know that blanket stitch is useful to reinforce the edges of a fabric material or join two pieces of fabric.</li> <li>To understand that it is easier to finish simpler designs to a high standard.</li> <li>To know that small, neat stitches which are pulled taut are important to ensure that the bauble is strong and holds the stuffing securely.</li> <li>To know that creating a mock up (prototype) of their design is useful for checking ideas and proportions.</li> </ul>		Aesthetic • Assemble • Book sleeve • Design criteria • Evaluation • Fabric • Fastening • Mock-up • Net • Running-stitch • Stencil • Target audience • Target customer • Template • Stuffing
		<b>Navigating the world</b>	<b>Vocabulary</b>
<b>Spring</b> <b>Digital world</b>	<ul style="list-style-type: none"> <li>To know that designers write design briefs and develop design criteria to enable them to fulfil a client's request.</li> <li>To know that 'multifunctional' means an object or product has more than one function.</li> <li>To know that magnetometers are devices that measure the Earth's magnetic field to determine which direction you are facing.</li> </ul>		• 3D CAD • Application (apps) • Biodegradable • Boolean • Cardinal compass • Client • Compass • Concept • Convince • Corrode • Duplicate • Environmentally friendly • Equipment • Feature • Finite • Function • Functional • GPS tracker • If statement • Infinite • Investment • Lightweight • Loop • Manufacture • Materials (wood, metal, plastic etc.) • Mouldable • Navigation • Non-recyclable • Product lifecycle • Product lifespan • Program • Recyclable • Smart • Sustainable • Sustainable design • Unsustainable design • Variable • Workplane
		<b>Steady hand game</b>	<b>Vocabulary</b>
<b>Summer</b> <b>Electricals and Electronics</b>	<ul style="list-style-type: none"> <li>To know that 'form' means the shape and appearance of an object.</li> <li>To know the difference between 'form' and 'function'.</li> <li>To understand that 'fit for purpose' means that a product works how it should and is easy to use.</li> <li>To know that form over purpose means that a product looks good but does not work very well.</li> <li>To know the importance of 'form follows function' when designing: the product must be designed primarily with the function in mind.</li> <li>To understand the diagram perspectives 'top view', 'side view' and 'back'.</li> <li>To know that batteries contain acid, which can be dangerous if they leak.</li> <li>To know the names of the components in a basic series circuit, including a buzzer.</li> </ul>		• Assemble • Battery • Battery pack • Benefit • Bulb • Bulb holder • Buzzer • Circuit • Circuit symbol • Component • Conductor • Copper • Design • Design criteria • Evaluation • Fine motor skills • Fit for purpose • Form • Function • Gross motor skills • Insulator • LED • User



# Year 6 Disciplinary Knowledge

Subject	DT	
Strands	ARE	Greater Depth
<b>To design, make, evaluate and improve.</b>	Generally, the user experience is used as a rationale for design choices.	The experience of the user drives the design process. There are many excellent examples and explanations of how choices improve the user experience.
	Generally, the user experience is used as a rationale for design choices.	Initial prototypes and alternative designs are thoroughly explored and explained. Refinements are continually made throughout the making process
	Art skills are generally applied and, along with attention to detail, create a high-quality finish.	Impeccable attention to detail and the extremely effective application of art skills create a professional quality finish.
<b>To take inspiration from design throughout history</b>	Generally, there are some well reasoned choices for combining elements from a range of designers.	An in-depth knowledge of some designers' work is reflected in some striking designs. The rationale and background to the design ideas are explained thoughtfully
	There is a growing range of examples of designs that improve upon existing products.	There are some notable examples of how the design of an existing product has been greatly improved.
	Evaluations are generally ongoing and thorough. They relate to the user experience.	The user experience drives critical self-evaluation and helps to identify current and future improvements.
<b>To master practical skills</b>  <b>Digital World</b>		
<b>To master practical skills</b>  <b>Textiles</b>	There are some good examples of effective joins.	There is a growing range of examples of effective joining techniques that show control and some precision.
	There are some good examples of art skills being used to provide decoration.	There are many good examples of art skills being applied to good effect to provide visual and tactile decoration.
<b>To master practical skills</b>  <b>Electricals and Electronics</b>	With support, and reminders of science knowledge, a range of circuits is created and used in products.	Science knowledge is generally applied to the design process to create products that employ a range of electronic components.