

Progression of Knowledge and Skills in DT

	Year 3	Year 4	Year 5	Year 6
Cooking and nutrition	<p><u>Knowledge:</u></p> <ul style="list-style-type: none"> To know how to use a rolling pin effectively. To understand what eating healthy means as part of a varied diet. <p><u>Skills:</u></p> <ul style="list-style-type: none"> Use a range of techniques safely such as chopping, slicing, grating, and spreading. Evaluate their product and explain their reason. 	<p><u>Knowledge:</u></p> <ul style="list-style-type: none"> To know how to use a knife/peeler/grater safely. To understand the importance of food hygiene. <p><u>Skills:</u></p> <ul style="list-style-type: none"> Evaluate existing and their own products. Prepare a savoury dish safely and hygienically, including the use of a heat source. Use a range of techniques safely such as peeling, chopping, slicing, and grating. Demonstrate hygienic food preparation and storage. Evaluate their work both during and at the end of the assignment. 	<p><u>Knowledge:</u></p> <ul style="list-style-type: none"> To know the principle of preparation of food hygiene. To understand own preference and the impact it will have when making own choices during designing and evaluation process. <p><u>Skills:</u></p> <ul style="list-style-type: none"> Use evidence to build up a picture of a past event. Make comparisons between different times in the past. Some children to research the significance of chocolate and corn and write a passage to describe the significance of one of the foods. To identify own preferences and how different people have different tastes. Evaluate a product against the original design specification. 	<p><u>Knowledge:</u></p> <ul style="list-style-type: none"> To use a saucepan and hob safely and understand the safety precautions. To use their knowledge of the customers tastes/preferences and create a soup based to meet the needs of the customer. <p><u>Skills:</u></p> <ul style="list-style-type: none"> Communicate their ideas through detailed labelled drawings. Generate ideas by carrying out research using questionnaires and surveys. Draw up and develop a specification for their design. With growing confidence, develop a clear idea of what has been done considering availability and constraints of resources and cost.

		<ul style="list-style-type: none"> Evaluate their products carrying out appropriate tests. 	<ul style="list-style-type: none"> Evaluate their product and think about suggestions of what they would change next time. Apply and understand the rules for basic food hygiene and other safe practices. 	<ul style="list-style-type: none"> Confidently select appropriate tools and use them to make products. Evaluate their products identifying strengths and areas for improvement. Record evaluations using drawings and labels. Evaluate against criteria and suggest improvements. Apply and understand the rules for basic food hygiene and other safe practices e.g., hazards relating to the use of ovens.
Textiles	<p>Knowledge:</p> <ul style="list-style-type: none"> Know that textiles are used to make clothing, sheets, towels, linen, carpets, rugs, and a wide variety of other products. There are a wide range of textile fabrics. To know how to join fabrics in several ways, including using a range of sewing techniques. 		<p>Knowledge:</p> <ul style="list-style-type: none"> Understanding of different fabrics and choosing suitable fabrics for their design. For example, some materials are good insulators (keep things warm/cool, e.g., wool/fleece), others are waterproof/resistant (e.g., laminated fabrics, PUL, TPU, leather), whilst others are eco-friendly (e.g., organic cotton, linen). To know that stitches and other techniques (e.g., embroidery, tie dye) can be added to the aesthetic appeal of their product. 	<p>Knowledge:</p> <ul style="list-style-type: none"> To know how to transfer their design into a pattern. To know how to measure accurately and ensure the correct unit of measure is used to transfer the pattern correctly.

	<p><u>Skills:</u></p> <ul style="list-style-type: none"> • Generate ideas for an item, considering its purpose and the user/s. • Identify a purpose and establish criteria for a successful product. Plan the order of their work before starting and prototype a product. • Explore, develop, and communicate design proposals by modelling ideas. Make drawings with labels when designing. • Sew using a range of different stitches, weave and knit and understand a seam allowance. • Measure, tape, or pin, cut and join fabric with some accuracy. • Join textiles using back stitch, running stitch or over-sewing. • Some may explore fastenings and make some (sew on buttons and make loops). • Use appropriate decoration techniques e.g., applique (simple stitches). 		<p><u>Skills:</u></p> <ul style="list-style-type: none"> • Research and collate ideas for an item, considering the material/fabric and its purpose. • Explore, develop, and communicate design proposals by modelling ideas. • Designing ideas with clear and accurate labels using key vocabulary. • Consider what will help you to meet the purpose and audience of your product. • To use a range of further stitches that can be used to sew and shape curved edges, and to decorate your product. • To research a range of fasteners that can be used to open and close different compartments on the product and choose the most appropriate fastener based on aesthetics, strength & durability, size/ practicality, and style. • To sketch and annotate different ideas and to plan the main stages of making. 	<p><u>Skills:</u></p> <ul style="list-style-type: none"> • Draw up a specification for their design e.g., annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces using ICT where appropriate. • Confidently select appropriate tools, materials, components, and techniques and use them to make their products. • Understanding of different fabrics and choosing suitable fabrics for their design. • Measure, mark out and shape with accuracy. (Use tools safely and accurately.) • Aim to achieve and make a quality product. • With confidence, pin sew and stitch materials together to create a product. • Evaluate their products identifying strengths and areas for development. Record their evaluations using drawings and labels. Evaluate against their
--	---	--	--	---

	<ul style="list-style-type: none"> • Create a simple pattern and understand the need for patterns. • Evaluate their product against original design criteria e.g., how well it meets its intended purpose. 			<p>original criteria and suggest ways that their product can be improved.</p>
<p>Electricity and control</p>		<p><u>Knowledge:</u></p> <ul style="list-style-type: none"> • To understand how electricity can flow through wires and cables. It can also be stored in batteries or cells. • To know that electricity can flow through circuits. • To know that currents can be deliberately allowed to flow or broken using a switch. • To know that some materials conduct electricity (conductors), whilst others do not (insulators) – linked to science. <p><u>Skills:</u></p> <ul style="list-style-type: none"> • To generate realistic ideas. • To make a labelled drawing. • To suggest alternative methods. • To select a wide range of tools and techniques. 		<p><u>Knowledge:</u></p> <ul style="list-style-type: none"> • To develop a greater understanding of how pulleys or gears create movement. Create and use prototypes. • To design and make products with greater independence. • To be able to decide on a suitable type of mechanism independently and be able to explain the reasons why it was chosen. <p><u>Skills:</u></p> <ul style="list-style-type: none"> • Pupils to select their own way of creating a moving fairground ride.

		<ul style="list-style-type: none"> • To measure and mark with accuracy. • To know how electrical systems make movement. • To assemble, join and combine materials. • Join and combine materials and components accurately in temporary and permanent ways. • Develop a clear idea of what must be done, planning how to use materials, equipment, and processes, and suggesting alternative methods of making, if the first attempts fail • To evaluate their work. 		<ul style="list-style-type: none"> • Communicate their ideas through detailed labelled drawings. • Draw up and develop a design specification e.g., annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces using ICT where appropriate. • Confidently select appropriate tools, materials, assemble components and techniques and use them to make their working models. • Explore, develop, and communicate aspects of their design proposals by modelling their ideas in a variety of ways. • Plan the order of their work, choosing appropriate materials, tools, and techniques. • Measure, mark out and shape with accuracy. • Use tools safely and accurately. • Construct products using permanent joining techniques. • Know how to reinforce and strengthen a 3D framework.
Mechanisms and structures	<p>Knowledge:</p> <ul style="list-style-type: none"> • To know what levers and linkages are and how they can create movement. • To know the importance of measuring with accuracy. • To know the types of tools required and the safety procedures of using certain tools. 	<p>Knowledge:</p> <ul style="list-style-type: none"> • To understand mechanical systems such as pulleys, levers, linkages, or pneumatic systems create movement. • To know that the pulley changes the direction of or the amount of force that is needed to lift an object. Includes lifts, cranes, and cable cars. • To know that the wheel and axle not only change circular motion into straight motion they 	<p>Knowledge:</p> <ul style="list-style-type: none"> • To know how to reinforce and strengthen a 3D framework. • To understand that a triangle is the strongest 3D structural shape. • To understand why their product did or didn't work successfully. 	

	<p><u>Skills:</u></p> <ul style="list-style-type: none"> • Begin to incorporate levers and linkages into their products. • Identify a purpose and establish criteria for a successful product. • Plan the order of their work before starting. • Explore, develop, and communicate design proposals by modelling ideas. • Make drawings with labels when designing. • Select tools and techniques for making their product. • Work safely and accurately with a range of simple tools. • Measure and mark out accurately. • Think about their ideas as they make progress and be willing to change things if this helps them improve their work. • Use finishing techniques strengthen and improve the appearance of their product using a range of equipment including ICT. 	<p>decrease effort, increase force.</p> <p><u>Skills:</u></p> <ul style="list-style-type: none"> • Select a wider range of tools and techniques for making their products safely. • Measure, mark out and shape with accuracy. Assemble, join, and combine materials and components accurately. • Begin to use finishing techniques to strengthen and improve the appearance of their product using a range of equipment including ICT. • Develop a clear idea of what must be done, planning how to use materials, equipment, and processes, and suggesting alternative methods of making, if the first attempts fail. • Design and make a product using a suitable type of mechanism. • Use simple graphical communication techniques. 	<p><u>Skills:</u></p> <ul style="list-style-type: none"> • Draw up a specification for their design e.g., annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces using ICT where appropriate. • With growing confidence, develop a clear idea of what must be done, considering the availability of resources, materials, equipment, and processes. • Suggest alternative methods of making if the first attempt fails. • Select appropriate tools, materials, and techniques for making their products. Select from and use a wider range of materials and components according to their functional properties and aesthetic qualities. • Evaluate a product against the original design specification. Evaluate their product personally and seek evaluation from others. 	<ul style="list-style-type: none"> • Make modifications as they go along. • Aim to achieve and make a quality product. • Evaluate their products identifying strengths and areas for development. • Record their evaluations using drawings and labels. • Evaluate against their original criteria and suggest ways that their product can be improved.
--	---	---	--	--

	<ul style="list-style-type: none"> • Evaluate their product against original design criteria e.g., how well it meets its intended purpose. • Evaluate familiar products. 	<ul style="list-style-type: none"> • Evaluate their work both during and at the end of their assignment. • Evaluate their products carrying out appropriate tests. • Know about inventors, designers, engineers, chefs, and manufacturers who have developed ground-breaking products. 	<ul style="list-style-type: none"> • Select appropriate materials, tools, and techniques. • Measure, mark out, cut, and assemble components with accuracy. • Use skills, in using different tools and equipment, safely and accurately. • Select from and use a wider range of materials and components according to their functional properties and aesthetic qualities. • Evaluate a product against the original design specification. • Evaluate it personally and seek evaluation from others. 	
<p>Health and safety</p>	<p>The school's Health & Safety Policy outlines the safe codes of practice for our school and provides the necessary guidance on the response and the reporting of all incidents.</p> <p>Children are encouraged to assess hazards and discuss the appropriate precautions. Children are taught the appropriate safe practice when using equipment.</p> <p>This will include:</p> <ul style="list-style-type: none"> • How to use equipment correctly and in accordance with health and safety guidelines. • To behave in a considerate and responsible manner, showing respect for other people and the environment whilst on trips outside the classroom (Year 4 Enginuity trip). • Reduce risks through responsible behaviour and use good practice to avoid hazardous situations developing. 			

- Abide by simple safety rules when using tools or equipment.
- Consider and recognise hazards in their proposed ways of working and take action to minimise them.
- Assess the risk of hurt or damage posed by evaluating their own and other designer's products and suggest remedial action.
- Store tools and materials with due regard and organise their working environment/practices in a safe way.

All staff are responsible for ensuring that the necessary procedures to safely carry out design and technology activities are implemented, including:

- Hygiene procedures such as washing hands.
- Personal protection such as tying back hair, tucking in loose clothing, and removing jewellery.
- Reducing workplace hazards such as not using water near an electrical point or appliance.

For further advice refer to CLEAPSS resources at www.cleapss.org.uk