

# What are the key features of 'knowledge-rich' assessment for DT?

Subject	Features
<b>Design Technology</b>	<ul style="list-style-type: none"><li><input type="checkbox"/> At key stage 1 and 2, the sticky knowledge takes full account of the national curriculum's main characteristics of:<ul style="list-style-type: none"><li><input type="checkbox"/> Designing</li><li><input type="checkbox"/> Making</li><li><input type="checkbox"/> Evaluating</li><li><input type="checkbox"/> Using technical knowledge</li><li><input type="checkbox"/> Food technology</li></ul></li></ul>
	<ul style="list-style-type: none"><li><input type="checkbox"/> There are relatively few assessment statements as these knowledge statements should be what pupils retain for ever. In other words, this knowledge is within their long-term memory and will be retained.</li></ul>
	<ul style="list-style-type: none"><li><input type="checkbox"/> When considering pupils' improvement in subject specific vocabulary, provide pupils with a vocabulary mat which contains all words used for design technology for their age group.</li></ul>



	Supported by JG
	Teacher led

	Resourced Ordered
	Resources collected prior

## D&T Project Days '19/20

	Aut 1	Aut 2	Spr 1	Spr 2	Sum 1	Sum 2	Catch up / Intervention for pupils absent during planned days
Y1		Textiles: Templates and joining techniques		Mechanisms: Sliders and levers			
Y2		Food: Preparing fruit and veg	Structures: Free standing structures			Mechanisms: Wheels and Axels	
Y3/PP		Structures: Shell structures		Textiles: 2D shape to 3D model			
Y4	Food – Healthy and varied diet		Mechanisms: Levers and linkages	Electrical Systems: Circuits and switches			
Y5/Y6	Textiles: Combining fabric shapes	Mechanical Systems: Pulleys and gears		Electrical Systems: Switches and circuits			

# DT: Key Stage 1

Designing		Making	Evaluating	Technical Knowledge	Food Technology
<p><i>Design - purposeful, functional, appealing products for themselves and other users based on design criteria</i></p> <p><i>Design - generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology</i></p>		<p><i>select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing]</i></p> <p><i>select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics</i></p>	<p><i>explore and evaluate a range of existing products</i></p> <p><i>evaluate their ideas and products against design criteria</i></p>	<p><i>build structures, exploring how they can be made stronger, stiffer and more stable</i></p> <p><i>explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products.</i></p>	<p><i>use the basic principles of a healthy and varied diet to prepare dishes</i></p> <p><i>understand where food comes from</i></p>
<b>Year 1</b>	<ul style="list-style-type: none"> <li>• use own ideas to design something</li> <li>• describe how their own idea works</li> <li>• design a product which moves</li> <li>• explain to someone else how they want to make their product</li> <li>• make a simple plan before making</li> </ul>	<ul style="list-style-type: none"> <li>• use own ideas to make something</li> <li>• make a product which moves</li> <li>• choose appropriate resources and tools</li> </ul>	<ul style="list-style-type: none"> <li>• describe how something works</li> <li>• explain what works well and not so well in the model they have made</li> </ul>	<ul style="list-style-type: none"> <li>• make their own model stronger</li> </ul>	<ul style="list-style-type: none"> <li>• cut food safely</li> </ul>
<b>Year 2</b>	<ul style="list-style-type: none"> <li>• think of an idea and plan what to do next</li> <li>• explain why they have chosen specific textiles</li> </ul>	<ul style="list-style-type: none"> <li>• choose tools and materials and explain why they have chosen them</li> <li>• join materials and components in different ways</li> <li>• measure materials to use in a model or structure</li> </ul>	<ul style="list-style-type: none"> <li>• explain what went well with their work</li> </ul>	<ul style="list-style-type: none"> <li>• make a model stronger and more stable</li> <li>• use wheels and axles, when appropriate to do so</li> </ul>	<ul style="list-style-type: none"> <li>• weigh ingredients to use in a recipe</li> <li>• describe the ingredients used when making a dish or cake</li> </ul>

# DT: Key Stage 2

Designing		Making	Evaluating	Technical Knowledge	Food Technology
<p>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</p> <p>generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design</p>		<p>select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities</p>	<p>investigate and analyse a range of existing products evaluate their ideas and products against their own design criteria and consider the views of others to improve their work</p> <p>understand how key events and individuals in design and technology have helped shape the world</p>	<p>apply their understanding of how to strengthen, stiffen and reinforce more complex structures</p> <p>understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages]</p> <p>understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors]</p> <p>apply their understanding of computing to program, monitor and control their products.</p>	<p>understand and apply the principles of a healthy and varied diet</p> <p>prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques</p> <p>understand seasonality and know where and how a variety of ingredients are grown, reared, caught and processed</p>
<b>Year 3</b>	<ul style="list-style-type: none"> <li>prove that a design meets a set criteria.</li> <li>design a product and make sure that it looks attractive</li> <li>choose a material for both its suitability and its appearance</li> </ul>	<ul style="list-style-type: none"> <li>follow a step-by-step plan, choosing the right equipment and materials</li> <li>select the most appropriate tools and techniques for a given task</li> <li>make a product which uses both electrical and mechanical components</li> <li>work accurately to measure, make cuts and make holes</li> </ul>	<ul style="list-style-type: none"> <li>explain how to improve a finished model</li> <li>know why a model has or has not been successful</li> </ul>	<ul style="list-style-type: none"> <li>know how to strengthen a product by stiffening a given part or reinforce a part of the structure</li> <li>use a simple IT program within the design</li> </ul>	<ul style="list-style-type: none"> <li>describe how food ingredients come together</li> <li>weigh out ingredients and follow a given recipe to create a dish</li> <li>can talk about which food is healthy and which food is not</li> <li>know when food is ready for harvesting</li> </ul>
<b>Year 4</b>	<ul style="list-style-type: none"> <li>use ideas from other people when designing</li> <li>produce a plan and explain it</li> <li>persevere and adapt work when original ideas do not work</li> <li>communicate ideas in a range of ways, including by sketches and drawings which are annotated</li> </ul>	<ul style="list-style-type: none"> <li>know which tools to use for a particular task and show knowledge of handling the tool</li> <li>know which material is likely to give the best outcome</li> <li>measure accurately</li> </ul>	<ul style="list-style-type: none"> <li>evaluate and suggest improvements for design</li> <li>evaluate products for both their purpose and appearance</li> <li>explain how the original design has been improved</li> <li>present a product in an interesting way</li> </ul>	<ul style="list-style-type: none"> <li>links scientific knowledge by using lights, switches or buzzers</li> <li>use electrical systems to enhance the quality of the product</li> <li>use IT where appropriate to add to the quality of the product</li> </ul>	<ul style="list-style-type: none"> <li>know how to be both hygienic and safe when using food</li> <li>bring a creative element to the food product being designed</li> </ul>

# DT: Key Stage 2

		Designing	Making	Evaluating	Technical Knowledge	Food Technology
		<i>use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design</i>	<i>select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities</i>	<i>investigate and analyse a range of existing products evaluate their ideas and products against their own design criteria and consider the views of others to improve their work understand how key events and individuals in design and technology have helped shape the world</i>	<i>apply their understanding of how to strengthen, stiffen and reinforce more complex structures understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages] understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors] apply their understanding of computing to program, monitor and control their products.</i>	<i>understand and apply the principles of a healthy and varied diet prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques understand seasonality and know where and how a variety of ingredients are grown, reared, caught and processed</i>
<b>Ye ar 5</b>	<ul style="list-style-type: none"> <li>• come up with a range of ideas after collecting information from different sources</li> <li>• produce a detailed, step-by-step plan</li> <li>• explain how a product will appeal to a specific audience</li> <li>• design a product that requires pulleys or gears</li> </ul>	<ul style="list-style-type: none"> <li>• use a range of tools and equipment competently</li> <li>• make a prototype before making a final version</li> <li>• make a product that relies on pulleys or gears</li> </ul>	<ul style="list-style-type: none"> <li>• suggest alternative plans; outlining the positive features and draw backs</li> <li>• evaluate appearance and function against original criteria</li> </ul>	<ul style="list-style-type: none"> <li>• links scientific knowledge to design by using pulleys or gears</li> <li>• uses more complex IT program to help enhance the quality of the product produced</li> </ul>	<ul style="list-style-type: none"> <li>• be both hygienic and safe in the kitchen</li> <li>• know how to prepare a meal by collecting the ingredients in the first place</li> <li>• know which season various foods are available for harvesting</li> </ul>	
<b>Ye ar 6</b>	<ul style="list-style-type: none"> <li>• use market research to inform plans and ideas.</li> <li>• follow and refine original plans</li> <li>• justify planning in a convincing way</li> <li>• show that culture and society is considered in plans and designs</li> </ul>	<ul style="list-style-type: none"> <li>• know which tool to use for a specific practical task</li> <li>• know how to use any tool correctly and safely</li> <li>• know what each tool is used for</li> <li>• explain why a specific tool is best for a specific action</li> </ul>	<ul style="list-style-type: none"> <li>• know how to test and evaluate designed products</li> <li>• explain how products should be stored and give reasons</li> <li>• evaluate product against clear criteria</li> </ul>	<ul style="list-style-type: none"> <li>• use electrical systems correctly and accurately to enhance a given product</li> <li>• know which IT product would further enhance a specific product</li> <li>• use knowledge to improve a made product by strengthening, stiffening or reinforcing</li> </ul>	<ul style="list-style-type: none"> <li>• explain how food ingredients should be stored and give reasons</li> <li>• work within a budget to create a meal</li> <li>• understand the difference between a savoury and sweet dish</li> </ul>	



## Sticky Knowledge: D and T

Year 1	Year 2
<input type="checkbox"/> I know where food comes from and can give examples of food that is grown.	<input type="checkbox"/> I know that I need a variety of food to make a healthy diet.
<input type="checkbox"/> I know which tools are appropriate for a particular task.	<input type="checkbox"/> I can design useful products for myself and others based on a design brief.
<input type="checkbox"/> I know how to use a range of tools to cut, join and combine materials safely.	<input type="checkbox"/> I know how to communicate my ideas through talking, drawing and mock-ups.
<input type="checkbox"/> I can ask simple questions about existing products and those that i've made.	<input type="checkbox"/> I know how to measure, mark out and cut materials using appropriate tools.
<input type="checkbox"/> I know how to use wheels and axles in a product.	<input type="checkbox"/> I know how to stiffen and strengthen structures to make them stable.
	<input type="checkbox"/> I know how to use mechanisms such as sliders, levers, wheels and axles.



## Sticky Knowledge: D and T

Year 3	Year 4
<input type="checkbox"/> I know how to prepare and combine ingredients safely.	<input type="checkbox"/> I know what makes a healthy and balanced diet and that different foods provide different substances to body needs to be healthy.
<input type="checkbox"/> I know how to create designs using annotated sketches, cross-sectional diagrams and simple computer programmes.	<input type="checkbox"/> I know about seasonality and locally produced food.
<input type="checkbox"/> I know how to measure, mark out, cut and join safely.	<input type="checkbox"/> I know how to follow recipes which involve processes, skills and techniques.
<input type="checkbox"/> I know how to make suitable choices from a range of tools and materials.	<input type="checkbox"/> I can create designs using exploded diagrams.
<input type="checkbox"/> I know how to investigate and analyse existing products.	<input type="checkbox"/> I know how to apply techniques I have learned to strengthen structures.
	<input type="checkbox"/> I know how to use electrical systems in my products.



## Sticky Knowledge: D and T

Year 5	Year 6
<ul style="list-style-type: none"> <li><input type="checkbox"/> I know how to create prototypes to show my ideas.</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> I know how to research, plan, prepare and cook a savoury dish, applying my knowledge of ingredients and technical skills.</li> </ul>
<ul style="list-style-type: none"> <li><input type="checkbox"/> I know how to make careful and precise measurements so that joins, holes and openings are in the right place.</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> I can generate, develop, model and communicate my ideas through discussion, annotated sketches, diagrams, prototypes and CAD.</li> </ul>
<ul style="list-style-type: none"> <li><input type="checkbox"/> I know how to evaluate existing products.</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> I know how to draw on technical knowledge to problem solve during the making process.</li> </ul>
<ul style="list-style-type: none"> <li><input type="checkbox"/> I know how to build more complex 3D structures and apply my knowledge of strengthening techniques to make them more stable.</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> I can use my knowledge of famous designs to influence my products.</li> </ul>
<ul style="list-style-type: none"> <li><input type="checkbox"/> I know how to use more complex mechanical and electrical systems.</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> I can apply my understanding of computing to program, monitor and control my products.</li> </ul>