

## Design and Technology

### What are the Key features of 'Knowledge-rich assessment for Design and Technology'?

At key stage 1 and 2, the sticky knowledge takes full account of the national curriculum's main characteristics of:

- Designing
- Making
- Evaluating
- Using technical knowledge
- Food technology

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.

When considering pupils' improvement in subject specific vocabulary, provide pupils with a vocabulary mat which contains all words used for art for their age group.

### Design and Technology: Key Stage 1

#### Year 1

Developing, Planning and communicating ideas	Working with tools, equipment, materials and components to make quality products	Evaluating processes and products
Can they think of some ideas of their own? Can they explain what they want to do? Can they use pictures and words to plan?	Can they explain what they are making? Which tools are they using?	Can they describe how something works? Can they talk about their own work and things that other people have done?

#### Breadth of study

Cooking & Nutrition	Textiles	Mechanisms	Use of Materials	Construction
Can I cut and peel ingredients safely? Can I describe the texture of foods? Can I talk about where different fruits come from? Can I talk about how to be healthy? Do I understand the importance of washing my hands and making sure that surfaces are clean? <b>(Year 1: Spring 1- Is it ever cold in Africa?)</b>  Can I think of interesting ways of decorating food I have made e.g. cakes? Do I understand the importance of washing my hands and making sure that surfaces are clean? <b>(Year 1: Autumn 1- Who is your hero?)</b>	Can I describe how different textiles feel? Can I combine materials by weaving? Can I cut safely using tools provided? <b>(Year 1: Spring 1- Is it ever cold in Africa?)</b>	Can I make a product which moves? Can I cut safely using tools provided? Can I choose the right materials when making a moving product? <b>(Year 1: Autumn 2- Old or New: Which toy do you prefer?)</b>	Can I make a structure/model using different materials? Can I talk about my product and say how/why I have chosen particular finishing techniques? Can I make my model stronger if it needs to be? <b>(Year 1: Summer 1- Who rules our country?)</b>	Can I talk with others about how I want to construct my product? Can I select appropriate resources and tools for my building projects? Can I make simple plans before making objects e.g. drawings/arranging pieces of construction before building? <b>(Year 1: Summer 1- Who rules our country?)</b>

#### Year 2

Developing, Planning and communicating ideas	Working with tools, equipment, materials and components to make quality products	Evaluating processes and products
Can they think of ideas and plan what to do next? Can they choose the best tools and materials? Can they give the reasons why these are the best? Can they describe their design by using pictures diagrams models and words?	Can they join things (materials/components) together in different ways?	What went well with their work? If they did it, again what would they want to improve?

#### Breadth of study

Cooking & Nutrition	Textiles	Mechanisms	Use of Materials	Construction
Can I measure or weigh using measuring cups or electronic scales? Can I describe the properties of the ingredients I am using? Can I explain what it means to be hygienic? <b>(Year 2: Spring 1- How is the UK different to the Polar regions?)</b>	Can I measure and mark out to the nearest centimetre? Can I join textiles using running stitch? Can I cut materials safely using tools provided? Can I choose the right materials when making a product according to the properties needed? Can I make products, refining the design as my work progresses? <b>(Year 2: Spring 1- How is the UK different to the Polar regions?)</b>	Can I create products using levers or wheels? Can I decorate my product? <b>(Year 2: Autumn 2- How do we know that dinosaurs existed?)</b>  Can I choose the right materials for making a product according to the properties needed? Can I make a vehicle move using wheels and axles? Can I demonstrate a range of joining techniques such as gluing or combining materials to strengthen? <b>(Year 2: Autumn 1- Who was afraid of the Big Bad Wolf?)</b>	Can I measure materials to use in a model or structure? Can they join materials in different ways? Can they use joining, folding or rolling to make materials stronger? <b>(Year 2: Summer 2- Who was to blame for the Great Fire of London?)</b>	Can I make sensible choices as to which materials to use for my construction? Can I develop my own ideas from my initial starting point? Can I incorporate some type of movement into models? Can I suggest ways to improve my construction? <b>(Year 2: Summer 2- Who was to blame for the Great Fire of London?)</b>

### Design and Technology: Lower Key Stage 2

#### Year 3

Developing, Planning and communicating ideas	Working with tools, equipment, materials and components to make quality products	Evaluating processes and products
Can they show that their design meets a range of requirements? Can they put together a step-by-step plan which shows the order and also what equipment and tools they need? Can they describe their design using an accurately labelled sketch and words? How realistic is their plan?	Can they use equipment and tools accurately?	What did they change which made their design even better?

#### Breadth of study

Cooking & Nutrition	Textiles	Electrical & Mechanical components	Stiff & Flexible sheet materials	Mouldable materials
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Can I choose the right ingredients for a product? Can I use equipment safely? Can I make sure that my product looks attractive? Can I describe how my combined ingredients come together? Can I understand the steps needed in order to be safe and hygienic when preparing food? <b>(Year 3: Autumn 1- Can you become the next Masterchef?)</b>	Can I join textiles of different types in different ways? Can I choose textiles both for their appearance and qualities? <b>(Year 3: Summer 1- How can we re-discover the wonders of Ancient Egypt?)</b>		Can I describe a design using an accurately labelled diagram? Can I measure, mark out, assemble and join materials and components with some accuracy? Can I choose materials for a purpose? <b>(Year 3: Spring 2: Is the force strong with you?)</b>	Can I select the most appropriate materials? Can I use a range of techniques to shape and mould? Can I make sure that my product looks attractive? <b>(Year 3: Summer 1- How can we re-discover the wonders of Ancient Egypt?)</b>
<b>Year 4</b>				
<b>Developing, Planning and communicating ideas</b>		<b>Working with tools, equipment, materials and components to make quality products</b>		<b>Evaluating processes and products</b>
Can they come up with at least one idea about how to create their product? Do they take account of the ideas of others when designing? Can they produce a plan and explain it to others? Can they suggest some improvements and say what was good and not so good about their original design?		Can they tell if their finished product is going to be good quality? Are they conscious of the need to produce something, which will be liked by others? Can they show a good level of expertise when using a range of tools and equipment?		Have they thought of how they will check if their design is successful? Can they begin to explain how they can improve their original design? Can they evaluate their product thinking of appearance and the way it works?
<b>Breadth of study</b>				
<b>Cooking &amp; Nutrition</b>	<b>Textiles</b>	<b>Electrical &amp; Mechanical components</b>	<b>Stiff &amp; Flexible sheet materials</b>	<b>Mouldable materials</b>
Can I prepare ingredients hygienically using appropriate utensils? Can I measure ingredients to the nearest gram accurately? Can I follow a recipe? Can I assemble or cook ingredients (controlling the temperature of the oven or hob, if cooking)? <b>(Year 4: Spring 2- What happens to the food we eat?)</b>		Can I select the most appropriate tools and techniques to use for a given task? Can I make a product, which uses electrical components? Can I construct a simple circuit? Can I refine work and techniques as my work progresses, continually evaluating the product design? <b>(Year 4: Summer 2- Was the west really wild?)</b>	Can I apply appropriate cutting and shaping techniques that include cuts within the perimeter of the material (such as slots or cut-outs)? Can I strengthen materials using suitable techniques? Can I improve upon existing designs, giving reasons for choices? <b>(Year 4: Autumn 2- What did the Romans do for us?)</b>	Can I choose suitable techniques to construct products? Can I select the most appropriate techniques to decorate textiles? Can I cut materials safely by selecting appropriate tools? Can I refine work and techniques as my work progresses, continually evaluating the product design? <b>(Year 4: Summer 2- Was the west really wild?)</b>

<b>Design and Technology: Upper Key Stage 2</b>				
<b>Year 5</b>				
<b>Developing, Planning and communicating ideas</b>		<b>Working with tools, equipment, materials and components to make quality products</b>		<b>Evaluating processes and products</b>
Can they come up with range of ideas after they have collected information? Do they take a users view into account when designing? Can they produce a detailed step-by-step plan? Can they suggest some alternative plans and say what the good points and drawbacks are about each?		Can they explain why their finished product is going to be of good quality? Can they explain how their product will appeal to the audience? Can they use a range if tools and equipment expertly?		Do they keep checking that their design is the best it can be? Do they check whether anything could be improved? Can they evaluate appearance and function against the original criteria?
<b>Breadth of study</b>				
<b>Cooking &amp; Nutrition</b>	<b>Textiles</b>	<b>Electrical &amp; Mechanical components</b>	<b>Stiff &amp; Flexible sheet materials</b>	<b>Mouldable materials</b>
	Can I think and talk about the aesthetic qualities of my work? Can I evaluate the appearance of my work against the original criteria? <b>(Year 5: Summer 1- Who were the Mayans and what have we learnt from them?)</b>		Can I measure and mark out accurately to the nearest millimetre? Can I explain how I have ensured that my product is strong and fit for purpose? Can I make up a prototype first? Can I use cross-sectional drawings to communicate my designs? <b>(Year 5: Spring 1- Smashing Saxons or Vicious Vikings- Whose team are you on?)</b>	Can I use a range of tools and equipment expertly? Can I assemble, join and combine components? Can I evaluate my products against criteria which I have set? <b>(Year 5: Summer 2- Who let the Gods out?)</b>
<b>Year 6</b>				
<b>Developing, Planning and communicating ideas</b>		<b>Working with tools, equipment, materials and components to make quality products</b>		<b>Evaluating processes and products</b>
Can they use a range of information to inform their design? Can they use market research to inform plans? Can they work within constraints? Can they follow and refine their plan if necessary? Can they justify their plan to someone else? Do they consider culture and society in their plans?		Can they use tools and materials precisely? Do they change the ways they are working if needed?		How well do they test and evaluate their final product? Is it fit for purpose? What would improve it? Would different resources have improved their product? Would they need more or different information to make it even better?
<b>Breadth of study</b>				
<b>Cooking &amp; Nutrition</b>	<b>Textiles</b>	<b>Electrical &amp; Mechanical components</b>	<b>Stiff &amp; Flexible sheet materials</b>	<b>Mouldable materials</b>
Can I talk about the importance of correct storage and handling of ingredients, using knowledge of micro-organisms? Can I create and refine recipes, including ingredients, methods, cooking times and temperatures?		Can I create circuits using a number of components? Can I make products through stages of prototypes, making continual refinements? <b>(Year 6: Autumn- An adventure awaits... Are you ready for a journey with a Hobbit?)</b>	Can I demonstrate an understanding of the qualities of materials and justify why I have chosen particular tools to cut and shape? Can I cut materials with precision and refine the finish with appropriate tools?	Can I use exploded diagrams to communicate my designs? Can I use the qualities of materials to create suitable visual and tactile effects when decorating products? Can I evaluate my designs/products and suggest improvements?

<p>Can I set out to grow my own product, taking account of time required to grow different foods? Can I work within a budget? (Year 6: Spring 2- What makes you tick?)</p>			<p>Can I ensure my product has a high quality finish, using art skills where appropriate? (Year 6: Summer 2- Why did Britain have to go to war in 1939?)</p>	<p>(Year 6: Autumn- An adventure awaits... Are you ready for a journey with a Hobbit?)</p>
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