



DT skills and knowledge progressions

Big Ideas		Reception Diwali lamp	Year 1 Toys	Year 2 Garment	Year 3 Slave aid	Year 4 Carrying tool	Year 5 Bridges	Year 6 Explorer shoe cover
Designing	Develop creative and technical expertise	Discuss what they are going to make and create a simple list of what they need/want to include in their design.	Discuss the needs/challenges of the user in order to generate a simple design specification for their product	Discuss the needs/challenges of the user in order to generate a simple design specification	Identify the needs/challenges of the user/s to identify success criteria to include on the design specification. Sort criteria into essential and desirable features.	Identify the needs/challenges of the user/s to identify success criteria to include on the design specification. Sort these criteria into essential and desirable features.	Research the needs/challenges of the user/s to create a design specification for functionality and aesthetics.	Research the needs and challenges of the user/s to create a design specification with criteria identified in order of importance
	Design high-quality, purposeful, functional and appealing prototypes and products for a wide range of users	Observe and describe the features of a range of similar products to the ones they are creating/designing to help generate their list Draw a picture of what they want their product to look like. Explore and discuss a range of materials that they could use to make their product.	Observe, discuss and label the features of existing products to generate own ideas Draw ideas, label some of the features and talk about the design to someone else Identify the properties of the materials/ components provided and their suitability for their product. Use prepositional language to describe how they might make their product with teacher support.	Identify the features of existing products, select and justify which elements they will include on their own design. Draw a simple design of the product, label materials/features and describe how it will work to someone. Select between at least 2 different construction materials / components and reason about their choices based on the properties of the material and the design specification. Use prepositional language to describe how they might make their product with teacher support.	Discuss the strengths and weakness of existing products and link these with ideas for their own design With support, create a range of realistic ideas (which meet the design specification) through annotated sketches. Explore a range of materials/ components that could be used and identify their choice on their design Use prepositional language in a list of steps that will be taken to make the product and identify roles and responsibilities when working as a team.	Evaluate some given existing products and identify criteria that should/could be used in their own design Communicate a range of realistic ideas (which meet the design specification) through detailed labelled drawings (including features and materials). Develop initial design ideas through the investigation and analysis of a range of materials / components and their properties that could be selected Use prepositional language in a list of steps that will be taken to make the product and identify roles and responsibilities when working as a team.	Evaluate some given existing products and identify criteria that should/could be used in their own design Communicate a range of realistic ideas (which meet the design specification) through detailed labelled drawings (including features and materials). Develop initial design ideas through the investigation and analysis of a range of materials / components and their properties that could be selected Use prepositional language in a list of steps that will be taken to make the product and identify roles and responsibilities when working as a team.	Research existing products, identify suitable and not suitable features for their product and explain their reasoning. Communicate a range of realistic ideas (which meet the design specification) through annotated sketches and drawings, discussion and cross-sectional diagrams Test the suitability of different materials (card, doweling, straws etc) / components before deciding which to use and labelling them on their design. Develop a clear idea of what has to be done (including who by if working as a team) and write a list of steps to show the order of construction. Suggest alternative methods if the first attempt fails.

Technical skills

	<p>Develop technical expertise</p>	<p>(Construction) Join materials and components e.g. gluing, stapling, taping</p> <p>Choose strong resources and use more joining material to make the product stronger</p> <p>Know and use technical vocabulary relevant to the project: stick, twist, attach, draw, design, model, cut</p> <p>Taste, describe and evaluate a range of food and be able to talk about some foods that are good for you and why</p>	<p>(Construction) Join a range of materials and components e.g. gluing, stapling, taping</p> <p>I can begin to find ways to make my model stronger, stiffer and more stable e.g. by adding a wider base</p> <p>Explore and use levers and sliders in my work e.g. moving picture</p> <p>Know and use technical vocabulary relevant to the project: construct, tool, join, product, design, hinge</p> <p>Understand where food comes from and sort it into different categories based on their properties. Discuss the benefits and negatives in terms of a healthy balanced diet</p>	<p>(Textiles) Join and combine materials and components in temporary and permanent ways</p> <p>Find ways to make my sewing joins stronger, stiffer and more stable e.g. by putting the stitches closer together</p> <p>Know and use technical vocabulary relevant to the project: attaching, joining, sew</p> <p>Understand that there are different foods groups and the types of food in each group</p>	<p>(Construction) Join and combine materials and components in temporary and permanent ways</p> <p>Strengthen, stiffen and reinforce structures</p> <p>Use a mechanical system in their product that produces one outcome (e.g wheels/axels)</p> <p>Know and use technical vocabulary relevant to the project: component, axel, wheel, (Knex)</p> <p>Understand how the different food groups combine to make a healthy balanced diet</p>	<p>(Textiles) Test at least 2 different ways Join and combine materials and components in temporary and permanent ways before deciding on the most effective</p> <p>Strengthen, stiffen and reinforce fabrics</p> <p>Know and use technical vocabulary relevant to the project: Join, stitch, seam, function</p> <p>Understand and use basic principles of a healthy and varied diet to prepare food and talk about their diets</p>	<p>(Construction) Investigate the most effective ways Join and combine materials and components accurately in a temporary and permanent way</p> <p>Choose the most appropriate way to strengthen, stiffen and reinforce structures</p> <p>Know and use technical vocabulary relevant to the project: cog, lever, pulley, mechanism.</p> <p>Understand and apply the principles of a healthy and varied diet when planning a nutritionally balanced menu</p>	<p>(Textiles) Investigate the most effective ways Join and combine materials and components accurately in a temporary and permanent way</p> <p>Choose the most appropriate way to strengthen, stiffen and reinforce fabrics</p> <p>Know and use technical vocabulary relevant to the project: hem, reinforce, lining,</p> <p>Understand seasonality/ know where/ how a variety of ingredients are grown, reared, caught / processed.</p>
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Making

<p>Develop practical expertise</p> <p>Make high-quality prototypes and products for a wide range of users</p>	<p>Use simple tools provided to make their product e.g. scissors, glue spreaders, pencils, pens, tape, rulers, hole punch</p> <p>Talk about the overall size of the model, its parts and the process they have used.</p> <p>Know how to wash hands and about basic hygiene</p> <p>I can use simple utensils and equipment to mix, grate and squeeze safely</p> <p>Measure dry and liquid ingredients using measuring containers e.g. tea/table spoons and cups</p>	<p>Select from and use a range of tools in different ways to perform practical tasks of cutting, shaping, joining and finishing e.g. scissors, glue spreaders, pencils, pens, sellotape, rulers</p> <p>Describe the lengths and sizes of the different parts of the product. Cut along straight and curved lines</p> <p>Understand basic food handling, hygiene practices and personal hygiene</p> <p>I can use simple utensils and equipment to mix, grate and squeeze safely</p> <p>Measure dry and liquid ingredients using measuring containers e.g. tea/table spoons and cups</p>	<p>Select from and use tools safely to cut, shape, join or finish work, and explain choices</p> <p>Use a needle. Sew the running stitch</p> <p>Measure, cut and score to the nearest cm with some accuracy</p> <p>Understand basic food handling, hygiene practices and personal hygiene</p> <p>Use utensils and equipment to mix, grate, slice, chop safely</p> <p>Weigh and measure time, dry ingredients and liquids accurately on digital and simple scales</p>	<p>Select from and safely use tools to cut, shape, join or finish work and explain choices</p> <p>Measure, cut, score to the nearest cm and assemble with some accuracy</p> <p>Understand basic food handling, hygiene practices and personal hygiene including the consequences of poor hygiene</p> <p>Use utensils and equipment to mix, grate, slice, chop safely</p> <p>Weigh and measure time, dry ingredients and liquids accurately on digital and simple scales</p>	<p>Make modifications throughout to achieve a high quality product</p> <p>Select from and safely use tools to cut, shape, join or finish work accurately and explain choices</p> <p>Use a needle. Sew the back stitch and running stitch</p> <p>Measure, mark out, cut and shape with accuracy and using mm.</p> <p>Understand basic food handling, hygiene practices and personal hygiene including the consequences of poor hygiene</p> <p>Use utensils and equipment to mix, grate, slice, chop safely</p> <p>Weigh and measure time, dry ingredients and liquids accurately on digital and simple scales</p>	<p>Safely use tools/techniques based on exploration of each to cut, shape, join or finish accurately</p> <p>Use cutting and finishing tools</p> <p>Use skills to measure, mark out and cut accurately to ensure a good quality finish</p> <p>Make products that are accurately assembled and well finished</p> <p>Make modifications throughout to achieve a high quality product</p> <p>Apply and discuss rules for basic food hygiene and other safe practices e.g. hazards related to ovens ,knives or raw food</p> <p>Work safely with a wide range of cooking equipment</p> <p>Weigh and measure time, dry ingredients and liquids accurately on more complex scales</p>	<p>Safely use tools/techniques based on exploration of each to cut, shape, join or finish accurately</p> <p>Use a needle. Sew the hemming stitch</p> <p>Use skills to measure, mark out and cut accurately to ensure a good quality finish</p> <p>Make products that are accurately assembled and well finished</p> <p>Make modifications throughout to achieve a high quality product</p> <p>Apply and discuss rules for basic food hygiene and other safe practices e.g. hazards related to ovens ,knives or raw food</p> <p>Work safely with a wide range of cooking equipment</p> <p>Weigh and measure time, dry ingredients and liquids accurately on more complex scales</p>
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Evaluating

Talk about what they like and could improve about their products with prompts

Say what I like about my design and what I might change if I did it again against the criteria in the design specification

Evaluate designs and final products by commenting on how well they meet the original design criteria

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Evaluate ideas, designs and final products with reference to the original design specification and how well it meets the intended purpose

Evaluate designs and products based on innovation, quality, functionality and how appealing they are with specific reference to the design specification.

Suggest areas for improvement with reference to the design specification.

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