



St Margaret's C of E Junior School

Progression of Skills and Knowledge in Design & Technology Year 5 & 6

■	Autumn
■	Spring
■	Summer

Skills/Knowledge	Year 5	Year 6
<p><u>Developing, planning and communicating ideas.</u></p>	<ul style="list-style-type: none"> -Gather ideas by drawing on their own and other people's experiences whilst making comparisons. -Generate and develop innovative ideas and share and clarify these through discussion -Generate ideas through brainstorming and identify a purpose and user for their product. -Draw up a specification for their design, planning how to use materials, equipment and processes, and suggesting alternative methods of making if the first attempts fail -Make labelled drawings from different views showing specific features and possible materials. Know key vocab: designer, purpose, product, user, criteria, features, labelled diagrams, technical drawing, evaluate -Explain what a prototype is -Identify basic structures and the materials used to construct them -Use Maths language that links structures with basic shapes, nets, parallel lines and angles. -Use Science language that links with more complex switches and circuits -Know the features of recipes and generate own with ingredients, utensils and steps -Know what a healthy foods are and their benefits -Identify food from different sources, seasons, cultures, countries and climates 	<ul style="list-style-type: none"> -Gather ideas by drawing on their own and other people's experiences whilst making comparisons and links. -Generate ideas through research and identify the purpose and user for their product. Explain how it meets the needs of the user. -Communicate their ideas through annotated and exploded drawings from different viewpoints and models showing specific features -Develop a design specification, creating a detailed plan of the order of their work, choosing appropriate tools, techniques and also allocating responsibilities if working in a team. -Use results of investigations, information sources, including ICT when developing design ideas -Using textiles: develop, model ideas through talking, drawing, templates, mock-ups, and prototypes and where appropriate computer aided design. Know key vocab: designer, purpose, product, user, criteria, features, labelled diagrams, exploded diagram, technical drawing, model, evaluate -Explain what an axle, axle holder, fixed and free wheel are -Use science language that links with more complex switches and components -Know what a mechanical system is -Explain what a mock-up is -Know what nutritional value means -Understand that some people have specific dietary requirements due to medical or religious grounds -Use Maths language that links with capacity when measuring and weighing ingredients -Know the features of recipes and generate own with ingredients, utensils , detailed steps and serving suggestions
<p><u>Working with tools, equipment, materials and components to make quality products (including food)</u></p>	<ul style="list-style-type: none"> -Select appropriate materials, tools and techniques for making a product -Know and use correct names and terms for tools and techniques -Measure, mark out, cut and shape a range of materials, using appropriate tools, equipment and techniques with greater accuracy - Join and combine materials and components accurately in temporary and permanent ways -Work safely and accurately with a range of simple tools -Weigh and measure accurately (length, time, dry ingredients, liquids) -Select and combine appropriate fruit and vegetables. -Apply the rules for basic food hygiene and other safe practices e.g. hazards relating to the use of ovens, know safe chopping and slicing techniques -Cut and join with accuracy to ensure a good-quality finish to the product -Sew using a range of different stitches, weave and knit -Use finishing techniques strengthen and improve the appearance of their product using a range of equipment including ICT -Name the materials and tools being used and explain how to use. -Name a broader range of stitches such as zig-zag and chain. -Explain the finishing and decorative techniques to be used on the end product -Understand how to strengthen, stiffen and reinforce 3D structures -Know how to safely assemble electrical components to prudence a controlled working circuit -Explain the purpose of the parts and how electricity flows through a circuit -Know how to measure and weigh accurately using a range of equipment -Know the units of measures appropriate to the task and read scales 	<ul style="list-style-type: none"> -Select appropriate tools, materials, components and techniques for making a product -Use specific names / terms for tools and techniques and give reasons for selections --Measure, mark out, cut and assemble components, using appropriate tools, equipment and techniques with greater accuracy - Join and combine materials and components accurately in temporary and permanent ways, making models to help with the planning process -Work safely and accurately with a range of simple tools --Weigh and measure accurately (length, time, dry ingredients, liquids, temperature) -Apply the rules for basic food hygiene and other safe practices e.g. hazards relating to the use of ovens and electricity, know safe chopping and slicing techniques -Select and combine appropriate fruit and vegetables based on specific criteria. -Make, decorate and present food for the intended user -Make modifications as they go along - Pin, sew with a range of stitches to attach materials together create a product -Use finishing techniques strengthen and improve the appearance of their product using a range of equipment including ICT -Name the materials and tools being used and provide reasons for why they have been selected. -Know how to correctly join/bond specific materials describing best methods. -Name a broader range of stitches such as zig-zag, chain and some finishing techniques like applique. -Identify a range of fabrics and methods for joining -Know that a 3D textile product can be made from combining a range of fabrics -Understand that mechanical and electrical systems have an input and output process -Know that gears and pulleys can be used to speed up, slow down or change the direction of movement -Know how to measure, combine, read scales and weigh accurately using different equipment and units of measure -Know about the use of different heat sources to prepare and cook food to safe temperatures

<p><u>Evaluating processes and products</u></p>	<ul style="list-style-type: none"> -Investigate a range of existing frame structures -Investigate famous inventors who created ground breaking electrical systems or components -Investigate key chefs that have influenced eating habits such as healthy eating: Jamie Oliver -Research key events and individuals relevant to frame structures -Evaluate a product against the original design specification. -Evaluate their product carrying out appropriate tests against original design criteria e.g. how well it meets its intended purpose -Continually evaluate and modify the product to meet the initial criteria set -Carry out sensory evaluations to describe the look, feel and aroma -Disassemble and evaluate familiar products -Evaluate it personally and seek evaluation from others -Record evaluations in different formats: tables, graphs, charts or star rating system -Know and use technical vocabulary relevant to the structures project -Know and use technical vocabulary relevant to switches and circuits -Know / use the technical relevant and sensory language related to food 	<ul style="list-style-type: none"> -Investigate famous manufacturing and engineering companies relevant to project such as JCB -Investigate and analyse textile products related to own products -Investigate how key chefs have influenced eating habits to promote healthy varied and healthy diets -Test a range of products that have been designed for a specific user and critically evaluate the quality, manufacture and fitness for purpose -Evaluate their products, identifying strengths and areas for development, and carrying out appropriate tests -Record their evaluations using drawings with labels -Evaluate against their original criteria and suggest ways that their product could be improved -Consider the views of others to improve own work -Disassemble and evaluate familiar products -Carry out sensory evaluations to compare and describe the look, feel and aroma of ingredients -Know and use technical vocabulary relevant to mechanical systems, pulleys and gears -Know and use technical vocabulary relevant to textiles and combining different fabrics -Know and use the technical relevant and sensory language related to food
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